App: F. IX-4

1924-5

(I+C)

File No. 78-24

Serial Nos. 2-30

Previous References

I+C 122-23 (1-7)

Legis 54-16 (1, 1a-16)

Later References

I+C 307-29 (1-5)

I+C 10-34 (1-3)

General and Revenue Secretariat.

Serial Nos. Twenty nine

Part B for Feby. 30.

SUBJECT

Rules under the Regulation for inspection and management of Steam Boilers and Prime Movers and the question of appointing a Boiler Inspector.

G. R. S. 11] 1924.

GENERAL AND REVENUE SECRETARIAT.

(Ire)

NOTES.

File No. 78-24

FILE HEADING.

Amendment of the Mysore Boiler Regulation No III of 1920

From

No. G. 629 Dated 12-1-25 Received 14-1-25

Diary No. 3466. Enclos. 3 Spare Copies. Serial No. 2.

BRIEF ABSTRACT OF LETTER.

Forwards the report of the Special Committee appointed in G.O. No. 365-8 Ire 122-23-7 d/ 20-7-24 for the purpose 7

NOTES AND ORDERS.

After carefully considering of the local Reg^{n} and comparing it with the India Boiler Act, the Committee have now drafted a Reg^{n}. so as to suit the present requirements

NOTES—First Sheet.

General and Revenue
Secretariat.

I & C File No. 78 of 1924

Serial
No.

with certain minor differences from the Indian Act. A copy of the draft Regn as also draft of rules (to be framed after the Regn is passed) as approved by the Committee are also enclosed for information. The points of differences are mentioned in the report of the Committee and are said to be of minor importance. Submitted for orders.

~~The Pres. Electric Council~~ may perhaps be requested to take further action in the matter.

WP
17/1

Rev Secy.

NRA
16-1-25

As. Brig ch and [illegible]

I have since discussed the point with the Rev Secy. WP

3. File No 122-23. deals with the question of amending Regulation III of 1920 (Mysore Steam Boilers & Prime Movers Regulation). By the time the framing of rules under this Regulation was seriously taken under consideration, the Indian Boilers Act of 1923 was passed into law and the then Dir of I & C recommended ~~that the Regulation~~

III of 1920, be so amended as to bring it in line with the Indian Boilers Act of 1923 & that rules be framed under the Regulation so amended.

4. As the matter was of a highly technical nature, Govt appointed a Committee to submit for their consid^n a draft Reg^n and Rules. The Comm^ee have now sent up the draft Reg^n & Rules, with a short explanatory note for variations, if any, from the corresponding provisions under the Indian Boilers Act.

F.

The Mysore Act III of 1920 seems to have been based on the Madras Act. The Indian Boilers Act was passed with a view,

N. (Stat^n of Obj^s + reasons)

i) to secure uniformity thro'out India, in all technical matters connected with boiler regulation e.g. standards of construction, maximum pressure, and ii) to insist on the registration & regular inspection of all boilers thro'out India.

Such a measure was rendered necessary, as there were several provincial Boiler Acts in Br. India, for different localities, each varying from the other, in certain important respects.

6. The draft Regulation drawn up by the Comm^ee goes beyond the Mysore Act III of 1920 in the following main respects:—

i) It prohibits the use of unregistered or uncertificated boilers, or the use of such boilers at a pressure higher than the max^m pressure recorded in the certificate, or by such person as does not hold a certificate of competency. (Sec 4.)

ii) Provision is made in Sec^ns 5–11, for the examin^n of the Boilers, by the Insp^r, before the issue of certificates,

Serial No.

+ for the renewal + revocation of certificates by the Inspr, in certain circces.

iii) Under the new Regln, it is not enough if notice is given of the intended structural alteration or addition: in the case of boilers, previous sanction of the Inspr is necessary (Sec 12) >< Steampipes (Sec 13)

iv) The appellate authority is the Dist Magt under the Act of 1920, in respect of orders passed by the Inspr. Under the new Regln, power is reserved to Govt to constitute the appellate authority. The Commr has suggested that the appeal memo may be lodged with the Inspr: perhaps this may not be appd. (Sec 19.) – Sec 20 declares that the orders of the appellate authority so constituted by Govt, are final + cannot be called in question in any Court.

Perhaps it may be necessary to extend the same immunity to the original orders passed by the Inspr –

v) The Mysore Act of 1920 had provided a fine up to Rs 500/- in respect of penalties under the Regln. Under the new Regln, there is a distinction made between minor penalties + more serious penalties (for illegal use of a boiler). For the first class, the maxm punishment is Rs 100/-: for the latter, Rs 300/-. (Secns 21 22 + 23) – For fraudulent tampering of the Regd number on the boiler, Sec 24 provides imprisonment ⊗ for 2 years, or fine or both

⊗ simple ? (or rigorous)

vi) In addition to the period of limitation

5

3066

(6 months) for instituting a prosecution, as provided in the old Regn, in the new Regn, the previous sanction of the Inspr is made necessary for instituting any such prosecution (Sec. 25) and the offences are made triable by a Court not inferior to that of a F.C.M.

viii) Fees etc levied under the Regn are made recoverable as arrears of land revenue (Sec 29).

7 The draft Regulation is far more comprehensive in its scope than the Act of 1920. It differs from the Indian Boilers Act in a few minor points, summed up in the covering letter of the Commr, to Govt. Also, it differs from the Indian Act, in another respect: no certificates of competency are reqd in boiler attendants in the Indian Act, while such are necessary under the draft Regn.

8 The Prot Branch may be consulted on the wording of the Draft Regn & Rules.

WP 5/3

7.3

Rev Secy

216/9.3 1st Mr

WP 9/3

9 A copy of the previous Regn may be put up. Against each Section of the draft Regn sent up for the Committee the corresponding Section of the old Regn may be noted for ready usage.

1411.3

WP 11/3

3466

G. R. S. III-2]

WD 2310—GPP—10,000—31-5-24

General and Revenue
Secretariat

Gen File No. 28 of 1924

Serial No.

10) A copy of Regn. III of 20 is put up. The pencil figures marked in the margin of the Draft Regn. indicate the corresponding Sections in the existing Regn.

MA
17.3.25

11 For orders, with ref. to I m's minute in Para 9.

I m)

WR
17/3

381/203

12. The proceedings in Leg. Council relating to the passing of the Ajmer Steam boilers & Prime movers Regn 9 1920 (containing the speech of the member introducing the Bill with the course of the discussions in Council on the Bill) may be put up.

(It is only 5 years since our Regn was passed during which period it has, I believe, been practically a dead letter; and now it is proposed to virtually repeal it & replace it by another on the lines of the B. I. Act of 1923. We have to justify before the Leg. Council the action proposed to be taken by us.)

NOTE—Contn. sheet.

APP. F. III-21

General and Revenue
Secretariat.

4400 g 24

P

38466

I&C File No. 78 of 1924

Serial No.

13. The Protection Branch may be requested to put up the papers regd. the leg. Member in para 12.

App
6-4-24

Protn Br,

12/4

28
14/4

Legs
15/4

15
The proceedings are put up.

~~[illegible]~~
16/4/24

(7I : x).

I&C)

16/4

GEN. & REV. SECRETARIAT
17 APR 1925
INDUSTRIES & COMMERCE BRANCH.

16. Submitted with ref to para 12 supra

App
18.4.24

Fa aour (Refn Para 12)

I (my)

24/4

618
25.4

18 Though the Hyderabad Steam Boiler & Prime movers Regn was passed in 1920, no Rules have been framed thereunder & the Regn has been practically a dead letter.

19 When the question of framing Rules under the Regn was raised in 1924, it was proposed that the Dir of Industries should have

NOTE—Contn. Sheet

Serial No.

our Regn amended on the lines of the Indian Steam Boilers Act of 1923 before Rules are framed thereon. The Dir. of ~~Industries~~ Commerce was asked to send up proposals for the amendment of our Regn in consultation with a Committee of Experts consisting of the Agent for Railways, Chief Engineer & Chief Insp. of Mines. The Dir. has accordingly submitted proposals for the amendment of our Regn.

21 The ~~proposals~~ amended Regn as proposed by the Committee may be approved after scrutiny of the Legislative Branch and action taken to have the measure placed before the Rep. Assembly & Leg. Council.

Dewan

22/5

Concur

WD 22/5

21 Approve. But some working rules might be framed to define the powers of the Dept in the meantime.

30/5

WD 11/6

173/11/6

22 The ~~D~~ Draft Bill may be sent to the Leg. Branch ~~[illegible]~~

+

23 As ~~[illegible]~~ suggested by the Dewan draft Rules for exercise of powers of the Existing Regn may also be prepared

11/6

11/6

11/6

WD 12/6

DEWAN'S OFFICE,
RECD. ON 23 MAY 1925
No. 8831

3466

4

G. R. S. III-21

General and Revenue
Secretariat.

I.C. File No. 78 of 1924.

Serial No.	
24.	The Committee have sent a set of Draft Rules but the same could only be adopted after the Regn is amended. The Director may perhaps be asked to send a set of rules as required in para 23. The file will be sent to Protection Br. with ref to para 22 supra

Flag A.

Dft to Dir. After issue, the file may be sent to Prot Branch. WA 18/6

~~LAA 15-6-25~~

25. Draft put up. Appd. Issue. ~~LAA 18-6-25~~

Asst Secy Protn Br with the compts

26. In favour of further action (Refr. para 22 above) WA 18/6

3 To

The Director of I.C.

I.C. 8465 Dt 19.6.25

With refce to N. 2 state that pending amendment of the Regulation

NOTE—Contn. sheet.

10

5542

P.

G.R.S. III-2]

ItC File No. 78 of 1924.

General and Revenue Secretariat

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a Set of working Rules for enforcing the provisions of the existing Regulation may be framed and submitted for the approval of Govt.

27. To Protection Branch with ref to para 26 above.

Iss 29.6.25

28/29/6.

GEN. & REV. SECRETARIAT
23 JUN 1925
INDUSTRIES & COMMERCE BRANCH.

LOCAL AND LEGISLATIVE SECRETARIAT
III
30 JUN 1925
PROTECTION BRANCH

28) Subm. In the preamble for the words "it is hereby enacted" the words "His Highness the Maharaja is pleased to enact" will have to be substituted as that is the usual form.

The section re. Definitions may have to be commenced with the words "In this Regn. unless there is anything repugnant in the subject or context" and the definitions may come in the alphabetical order as in the Govt. of India Act.

NOTE—Contn. Sheet

B20

Serial No

for 'as such'

In clause 2(d) after the word "appointed" the words "as inspectors" may be inserted.

Clause 3(1) Before the word "persons" in the 2nd line the words "person or" may be inserted.

S. 5 (3) of the Govt. of India Act will have also to be adopted as sub-clause (3) of clause 3.

Clause 4(b) is unnecessary as boilers brought from outside the State will have to be registered here and it does not seem to be the intention to recognise registrations made in British India.

Clause 23(a) seems also unnecessary.

Clause 27(c) The form of the inspector's report on an examination of a boiler need not be prescribed for him as he is the person who registers the boiler & not the chief inspector as in British India.

The other clauses seem alright.

23/7/23

G.R.S. III-21

WD 2119—GPB—10.000—[illegible]4-25

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Serial
No.

Note—Contn. Sheet

1685 p 825

12

General and Revenue
Secretariat

I&C. File No. 78

[App. F. III—2

of 1924

Serial No

No. G.323/C.S. dated 8th Oct 1925, from the Director, I&C.

Forwards a set of draft rules that may be issued under the Mysore Boiler Regulation III of 1920.

29) The main file is in the Protn. branch, in connection with the amendment of the Regulation.

SA 14/10

Rev Secy

WG 15/10

30) Please put a copy of letter ~~[illegible]~~ of 19/6 & put up with the existing Regn.

k 15/10

WG 17/10

31) To the Protection branch for kindly sending up the file.

SA 20/10

INDUSTRIES & COMMERCE BRANCHES 26/10

32) The file is put up

[illegible] 26.10.25

SA 26/10

To the I&C Br.

flag 'Z'

33) Subd. with a copy of letter dated 19.6.25 together a copy of the existing Regulation.

The main file re amendment of the Regulation obtained from the Protn. branch is linked hereto and the same will be returned to that branch after issue.

SA 27/10

34) The draft rules now subd by the Director are with refce to the letter d. 19.6.25 to him (Serial 3. in the file placed below, linked.) Kind refce is invited Paras 21. & 23 (the I m's & Dewan's minutes in that file.

R Secy

WG 27/10

k 27-10

1st member

29/10

35) Remainder of the main file may be embodied in the file before [illegible] [illegible] of draft [illegible] 578 28.10.25

29/10

NOTE—Contn. Sheet

App. F. III—2]

WP 0569—GPB—40,000—31-7-25

File No.	of 192	General and Revenue Secretariat

Serial No.

NOTE—Contn. Sheet

Serial No

36) The communication of the Dir. I&C dated 8th Oct 1925, forwarding draft rules under the Mysore Boiler Regulation has been embodied in the main file. Resubmitted for orders. Remd-

667 / 30.10.25

S/ 30/10 Just me

UA 30/10/25

37) I should like to know what the Draft Rules are based on. If they are based on the Rules in force in British India, a copy of them may be put up, and the no. of the British Rule corresponding to each of our Rules may be noted against them for ready reference.

38) Please put up D.O.

UA 31/10

39) Submitted with a draft D.O.

S/ 2/4

40) Issue UA 2/11

2.11.25

5 To

Director I&C.

I.C. 2977 of 4.11.25

With refce to sl. 4 enquiries what the draft rules are based on and requests that, if they are based on the rules in force in

WD 0569—GPB—40,000—31-7-25

App. F. III—2]

General and Revenue Secretariat

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Serial No.

[illegible]

[illegible]

NOTE—Contn. Sheet

1856 88

G[illegible]ral and Revenue
Secretariat.

Ic File No. 78 of 1924 14

Serial No.

British India, a copy of these rules may be sent for the information of Govt. indicating therein the number of the corresponding rules in the draft sent by him.

NOV 1925
S & COMMERCE BRANCH

6/11

No. G.410/C5 dated 10th Nov 1925, from the Dir. I&C.

States that the draft rules under the Mysore Boiler Regulation framed by him are based on the ^x^ Madras Rules and forwards a copy of the Madras Rules

flag 'S'

41) States with reference to the orders of the first member in para 37 of the notes. The number of the corresponding Madras Rule has been noted in red ink against each rule in the draft sent by the Director.

51/12/11 Rev Secy

Refd Para 37.

(1st member)

WP 12/11

h 12/11

30/12.11

42) The Asst Secy will please go through the draft Rules & note on them (as regards their suitability &c)

WP 12/11

(43) Mr S.N.
Please prepare a statement showing the existing prices in Br. India & that proposed in the Dir's ofc.
WP 17/11

6/11

h

NOTE—Contn. Sheet

G.R.S. III-27

WD 2119—GPB—10.000—27-4-

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General and [illegible]enue Secretariat.

Serial No.

NOTE.—Contn. Sheet

General and Revenue
Secretariat

Dal File No. 78 of 1924

Serial No

44) A Statement showing side by side the Rules proposed by the Director and those issued by the Govt of Madras on which the former are based, is put up as required in para 43 of the notes.

A
3/12

45 Subd for orders with notes wherever necessary, on the statement. The draft rules have been modelled closely on the rules under the old Govt of India Regn. Instructions in regard to the method of determining pressure, of conducting inspection of boilers etc. are matters technical in nature and the formulae & methods of calculation must have been arrived at, after a great deal of patient experimenting, & theoretical investigation. Refer (1) my minute above

R Secy

WP
5/12

46 (1st member)

h
5/12

172
7.12

WP
7/12

47 The Rules drafted by the Dir. which are based on those issued by Madras Govt under their old Act are all right & may be approved

But before the Rules can be issued & brought into operation, it is necessary to appoint necessary ~~an~~ Inspectors of Boilers & ~~Steam~~ Prime movers. From a reference to the Madras Civil List, I find that the Madras Govt

WD 0569—GPB—40,000—31-7-25

App. F. III—2]

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NOTE—Contn. Sheet

Serial No

have a Chief Inspr on Rs 700-30-1000 with a conveyance allowance of R 50 p.m and 4 Inspectors on Rs 400-30-700.

~~Ins~~ 2. We may require a Chief Inspr & one Assistant Inspr or at least an ~~Chief~~ Inspr alone on a salary of not less Rs 500 p.m to begin with, together with a suitable office Establishment under him. I would therefore suggest that sanction may be accorded for the appointment of an Inspector on Rs 500 tentatively for one year, with ~~an~~ Establishment (clerical & menial) ~~costing~~ not more than Rs 200 p.m. & that the Inspector may be placed in subordination to either the Agent Nizam's Railway, or the Chief Engr. Chief Inspector of mines. (In Madras, he ~~is~~ is under the Sanitary Engineer to Govt.)

14/12

Returned with regard to his minute of 8/5/25 (para 2. of the note)

48. Might be discussed at an early Govt meeting of the

15-12

To Chief Secy with Compliments

16/12

WD 0569—GPB—40,000—31-7-25

App. F. III—2]

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General and Revenue
Secretariat

Serial No.	

NOTE—Contn. Sheet

5621

Serial No

49. In forming an opinion on the question of Before, sanctioning an addl. officer for this purpose, it will be convenient ~~[illegible]~~ to have the Member's opinion whether, for the present at least, an officer of the Industries Dept. could not perform this work whether by reposting Mr. Sastri to the Dept. or otherwise. Mr. Rao Saheb will also soon be wanting work, & it seems to me that in view of our restricted finances, the work should be arranged by a re-shuffling of some of our technical men, if that is possible.

19-12-25.

50. There are only about 50 boilers in the State. The Elect. Engr. who has experience of boilers might be able to undertake this work at present with some small assistance.

H. Member

21/12/2

5642/22

52. I don't know what is the basis of the Chief Secretary's statement that there are only 50 boilers in the State. ~~But~~ In the speech made by Mr. T. Raghavendra Rao when introducing the Mysore Steam Boilers & Prime

Flag K

WD 0569—GPB—40,000—31-7-25

App. F. III—2]

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General and Revenue Secretariat

Serial No.

[illegible]

NOTE—Contn. Sheet

Serial No.

moved Bill before the Legislative Council in June 1918, ~~[illegible]~~ he has stated that there are about 300 boilers in K G F alone & about 100 (of which 67 belong to private parties) in the rest of the State. This number should have, if at all, increased, and not got reduced to 50 within the last 7 years.

[illegible] 22/12

53. The number 50 does not include the Kolar Gold Fields Boilers. Very few people use boilers now as oil ~~&~~ gas-engines are more economical than steam-engines. So there is not much difference between the figures given by me & those of Mr Raghavendra Rao. I remember having made a calculation when I was Director. For the Ry Deptt the Railway will have their own agency as the Locomotive Boiler is of an entirely different type. I do not know whether it would be possible for us to undertake the inspection of the boilers in the K.G.F. Even there the importance of those boilers has been greatly reduced by the free use of electric power

C S Kamalayya

23/12/25

54. Secy: This may be placed before Council along with 58 Dewan.

JC 28/12

548 22.12

G.R.S. III-2]

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General and Revenue
Secretariat

Serial
No.

NOTE—Contn. Sheet

18a

an early
(For Disposal at ~~a~~ Meeting)

No. C. 281
9 — 1925-6

GENERAL AND REVENUE SECRETARIAT.

Council Matter.

SUBJECT.

(Clauses v and xii of the schedule)

Rules under the Regulation for the Inspection and Management of Steam Boilers and Prime Movers, 1920, and question of appointing a Boiler Inspector.

CIRCULATED TO THE MEMBERS OF COUNCIL.

By Order,

Chief Secretary to Government.

17th December 1925.

Extraordinary Member of Council.

452/18.12 **First Member of Council.** 17/12

5621/18/12 **Second Member of Council.** minuted.

Extra Member of Council.

Not Considered on 23.12.25

[illegible]56

C.81 19

Subject. -

3)

55. Rules under the Regulation for the Inspection and Management of Steam Boilers and Prime Movers and question of appointing a Boiler Inspector.

....

OPINION OF THE COUNCIL.

To Note

Bring it up at the next meeting of Council with the notes of discussion by the [illegible] with the Mining Bd in connection with the Inspection of Boilers

8/1.

Revenue Secretary with Compts

9.1

2436

(281 20

G.R.S. III—3]

[To be used only for notes,

20

Put up Notes of Discussion with the Mining Bd in respect of appt of Boiler Inspector i.e. in re subject of inspection of Boilers.

To the P.A. to the I member, with compliments for kindly sending a copy of the notes of discussion referred to above.

Sd/ 13/1

11/1/26

9.1.26

S7. Subd with the Collection Genl. 102-17-1 containing the notes of discussion by the First Member, referred to above.

Sd/ 15/1

Ch. Secy.)

1st Member.

Sd/ 15/1

Sd/ 15/1

flag 'B'

374/16.1

N.B.—Should routine notes be written on small slips, the notes must be copied, or slips pasted on this form.

G.R.S. III—31

Routine Notes.

[To be used only for notes, requisitions, etc., not intended for permanent record.]

N.B.—**Should** routine notes be written on small slips, **the** notes must be copied, or slips pasted on this form

C28 p 21

3 Subject. - 8

58 Rules under the Regulation for the Inspection and Management of Steam Boilers and Prime Movers and the question of appointing a Boiler Inspector.

....

OPINION OF THE COUNCIL.

59. To find out if the duties cannot be done by the Industrial Engineer with some assistance. To be subd to the 1st Member

18/6/16

1st Member

19/6/16

468/1911 60. The Dir of Industries may be written to demi officially & asked to ascertain & report whether the Industrial Engr or the Supdt of Industries have ~~knowledge~~ practical knowledge & experience of boilers & prime movers & if they have the necess. qualifications to be appd as Inspector of ~~Inspection~~ Boilers & Prime movers under the Regn.

19/6/16

I concur

20/6

I [illegible]

2256 ce111 ce111

22

Serial No

61) Subd with a draft

S/ 20/1

App
WQ
20/1

62) Issue
20/1/26

7 To Director of I&C
I.C. 4996 of 22.1.26.

refer to S.4. Request him to ascertain and report whether the Industrial Engineer and the Superintendents of Industries have practical knowledge and experience of Boilers and Prime Movers and if they have the necessary qualifications to be appointed as Inspectors of Boilers &c under the Regulation

Subd
S/ 26/1

INDUSTRIES & COMMERCE
BRANCH

8 No. 645 dated 9th Feb 1926, from the Dir, I&C

Forwards a statement showing the qualifications, experience which ~~of~~ the Industrial Engr. & the Supdts of Industries possess.

63) The letter of the Director does not fully furnish the information required in Sl. 7. He has not given his opinion as to whether the above officers have the necessary qualifications to be appointed as Inspectors of Boilers, etc, which he was asked to furnish.

Refr member's minutes in para 60 of the notes

S/ 12/2

Ch Secy

WQ
13/2

64) Have any of the Supdt of Industries got any certificates showing passed the boiler examinations

WQ 15/2

15/2

App. F. III—2]

WD 0569—GPB—40,000—31-7-25

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General and Revenue
Secretariat

Serial No.

NOTE—Contn. Sheet

4111

General and Revenue
Secretariat

Dre File No. 78 of 1924. [App. F. III—2

23

Serial No

65) Subd with a draft

51/15/2 VS Appd WQ 20/2 66)

Issue
VS
20/2/26

Recd 22/2

9 To Director, I.C.
I.C. No. 5820 d/ 23.2.26
Refer to sl. 8. Enquires whether any of the Superintendents of Industries has got any certificates of having passed the Boiler Examination.

Issued no. 6957 d 7.4.26.
to the Industrial Assistant to the Director sending the rules under the Madras Boiler Regulation to be returned when done with.

8/25

G. & Rev. Secretariat
25 FEB 1926
Industries & Commerce
Branch.

Note—Contn. Sheet

WD 0569—GPB—40,000—31-7-25

App. F. III—2]

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No.

NOTE—Contn. Sheet

WD 01264—GPB—40,000—17-12-25

[App. F. III—2

General and Revenue Secretariat

File No. of 192 24

Serial No.

No. G.588 dated 5.3.1926, from the Dir. I.C.

States that neither the Elecl. Engr. nor any of the Supdts of Industries possess any certificate for having passed the Boiler inspection examination and forwards a statement showing the experience each of them possess.

67) Subd with reference to the orders of the Ch. Secy in para 64.

51/8/4 68) The qualifications of the Supdts of Industries for this work are about the same. We might perhaps try, for about 6 months or a year, whether the Indl. Engr may not be entrusted with the work, in addition to his own duties, in respect of the large concerns in the City of Bangalore & Mysore & the Supdts of Industries ~~may be entrusted~~ with similar work in their Divisions. If this scheme should not work successfully, ~~the~~ question of appointing a Separate Boiler Inspr under the Regln may perhaps be considered.

UA 9/4

Ch Secy

69) I think the Indl Engr is quite qualified to examine & test boilers & he can manage the work for the present with the assistance of the Supdts of Industries. If necessary a man who has obtained a certificate may be entertained on about Rs 150 or 200 to assist him.

9/4/26

UA 9/4

30/10.4

NOTE—Contn. Sheet

50

Gener.. and Revenue Secretariat

Ite. 5214

WD 01264—GPB—40,000—17-12-25

[App. F. III—2

I.C. File No. 25 of 1926

25

Serial No.	
	70) Can the Chief Secy ascertain informally what are the qualifications of the Boiler Inspectors in Madras Pres. & whether they have to pass any particular tests to qualify themselves for the appt. 10/4

71) Please put up D.O. letters to Sri Vijayaraghavachary (Dir. I&C Madras) & Mr. Gamble Dir. of Industries Bombay enquiring as above.
14/4/26 WD

72) Submitted with draft for approval.
14/4

73) WD 14/4
Please issue D.O. (A/c for his signature) and to Secy
WD 15/4

11 To Directors I&C. Madras & Bombay 7243-44 d/19.4.26.

Request them to kindly furnish information as to what qualification have been prescribed for Boiler Inspectors in these Presidencies and whether such Inspectors have to ~~pay~~ pass any particular examination to qualify themselves for the post.

NOTE—Contn. Sheet

5711 5865 557

General and Revenue
Secretariat

Ind. File No. 78 of 1924. 26

Serial
No.

No. 231-B/26 dated 23.4.1926, from the Dir, Ind. Madras

States that our letter has been forwarded to the Chief Inspector of Boilers for disposal.

No. Ic. 2/1274 dated 22.4.1926, from the Dir, Ind. Bombay.

States that our letter re information about Boiler Inspectors has been forwarded to the Collector of Bombay who deals with it.

74) Subd for perusal

SA 4/5 VB Ch Secy) WA 4/5/26.

75) WA 5/5 6 50

SECRETARIAT
5 - MAY 1926 575
INDUSTRIES & COMMERCE
BRANCH

No. 407 dated 4-5-1926, from the Chief Inspector of Boilers. Madras.

Furnishes information in regard to the qualifications prescribed for the Boiler Inspectors in the Presidency.

76) Subd with reference to the First member's minutes in para 70 of the notes.

A reply in this respect is due from the Dir. Industries, Bombay who has also been addressed.

SA 6/5 VB ChSecy) WA 6/5

77) Mr. Appadurai Mudlr satisfies the tests prescribed in Madras though he does not possess a Board of Trade Certificate. References

NOTE—Contn: Sheet

(54)

WD 01264—GPB—40,000—17-12-25

[App. F. III—2

General and Revenue
Secretariat

7U File No. 78 (54) of 1924 27

NOTE— Contd. Sheet

Serial No

invited to my note of the 5th [illegible]

1st Member

6/5/26

WP
7/5

78) The following communication has in the meanwhile received from the Collector of Bombay.

No. 4580 dated 5.5.1926, from the Collector Bombay

States that no examination has been prescribed for the appointments of Boiler Inspectors and mentions the qualifications prescribed for the appointments.

79) Subd for orders

Sd 7/5 Ch Secy

WP
7/5

80) May perhaps be again considered in Council

1st Member

7/5/26

193
8.5

81) Does the Supdt of Industries possess the qualifications prescribed for Boiler Inspectors in Madras or Bombay?

So far as the Industrial Engr is concerned, I agree with the Chief Secy that he may be considered as possessing the required qualifications for the place

8/5

WP
10/5

WD 01264—GPB—40,000—17-

App. F. III—2]

General and Revenue Secretariat

I&C File No. 78 of 1926 28

Serial No.	
	82) None of our Superintendents of Industries seems to possess fully the qualifications prescribed for Boiler Inspectors in Madras & Bombay. (But the men now employed do not usually possess higher qualifications than are possessed by our Supdts of Industries)

Mr S.N.

83) This file is recd from the Ch Secy with instructions to put up a dft.

Please comply

SI 14/5

WG 14/5

84)

17/5

85) Subd with a draft letter to the Dir. for appl

SI 15/5

Ch Secy)

WG 17/5

86) May issue

WG 18/5

13	To Director, I&C 7949 dy 20.5.26. refer to 10. Calls for a statement furnishing in detail information as regards the technical training and experience of each of them together with particulars of age & health etc.

Secy

GEN. & REV. SECRETARIAT
31 MAY 1926
INDUSTRIES & COMMERCE BRANCH

No. G. 1118/C dated 30th June 1926, from the Dir. I&C

Forwards a statement showing the technical training and the technical experience of each of the officers of the I&C Dept. in connection with the inspection of Boilers.

87) Subd for perusal & orders (Refr Para 81).

SI 1/7

Ch Secy)

WG 1/7/26.

88) I have nothing to add

NOTE—Contn. Sheet

182

WD 01264—GPB—40,000—17-12-25

App. F. III—2]

General and Revenue
Secretariat

116 File No. 78 of 1924. 29

Serial
No.

23d Aug 1925 f

To my orders of the 9th April 1926 paras 53 & 69. Having regard to the large increase in the number of boilers in the State it is necessary to appoint an Inspector of Boilers but it is not necessary to appoint at present a whole-time man and the Asst Engr may be entrusted with these duties. The Supdts of Industries may assist him but if it is deemed that they do not possess the exact qualifications required an Asst may be given.

DEWAN'S OFFICE.
Received on
9 JUL. 1926
Reg. No. 182

89 The matter may be further considered in Council

1/7/26

Ind Member

Dewan)

64/5.7

90 I agree with Chief Secy. No separate hand need be appointed at any rate for the present. As soon as the question as to who may be appointed as Inspector is settled action has to be taken to issue rules under the existing Regn. This Regn has not been worked at all so far and I think it is not necessary to amend the Regn soon after beginning to work it. The question of amending the present law may therefore be deferred for two years.

8/7/26 8/7 9/7

Include any next weekly programme

11/7

91 I agree

10.7.26

NOTE—Contn. Sheet

Included.

(For Disposal at ~~a~~ the next Meeting)

No. C. 281

G 1925-26

GENERAL AND REVENUE SECRETARIAT.

Council Matter.

SUBJECT.

(Clause v & xii of the schedule)

Rules under the Regulation for the Inspection and Management of Steam Boilers and Prime Movers, 1920, and question of appointing a -- Boiler Inspector.

CIRCULATED TO THE MEMBERS OF COUNCIL.

By Order,

Chief Secretary to Government.

13th July 1926.

Extraordinary Member of Council.

390/13.7 **First Member of Council.** 13/7/26

Second Member of Council. [Seen by the Member]

~~**Third Member of Council.**~~

C281 of 25-26.

30

Extract from the Proceedings of the 777th *Meeting of the Council of His Highness the Maharaja, held at Bangalore on the* 15th July 1926. *19*

21. Subject. - Clause v of the schedule.

Rules under the Regulation for inspection and management of Steam Boilers and Prime Movers, 1920, and question of appointing a Boiler Inspector.

OPINION OF THE COUNCIL.

92 The Industrial Engineer may be appointed as Inspector of Steam Boilers. Necessary steps to be taken to introduce rules under the existing Regulation. The question of amending it may be deferred for the present.

(Signed) Mirza M. Ismail,

Dewan of Mysore.

OFFICE OF THE
SECOND MEMBER OF COUNCIL.
17 JULY 1926
No....355

93 For [illegible] of [illegible] note

[illegible]

2nd Member 18/7/26

94 Put up [illegible]

20/7/26

95 - Letter D.S.W.

Dewan 21/7

(A draft is [illegible] in the file)

"EXTRACT"

Chief Secretary to Government.

WD 1471—GPB—2,000—1-3-21

31

Final Note by the Second Member of Council.

Subject:— Rules under the Regulation for inspection and management of Steam Boilers and Prime Movers, 1920, and the question of appointing a Boiler Inspector.

E

The Mysore Boilers Regulation ~~III of 1920~~ was passed in the year 1920 and it was not possible to give effect to this Regulation as no rules have as yet been framed as required by the Regulation. When the Director of Industries & Commerce was consulted as regards the framing of rules, he pointed out that the law had since been amended in British India and that instead of issuing rules under the old Regulation, the Regulation itself may be amended so as to bring it into line with the Indian Boilers Act of 1923 and rules framed under the Regulation so amended. As the matter was of a technical nature, Government appointed a Committee consisting of the Agent, Mysore Railways, the Chief Engineer, the Chief Inspector of Mines, and the Director of Industries & Commerce as Chairman to examine the whole subject. The Committee have prepared a draft Regulation and Rules with a short explanatory note & its enclosure for variations ~~if any~~ from the corresponding provisions of the Indian Boilers Act.

D S F C

2. The draft Regulation proposed by the Committee is far more comprehensive in its scope than the Act of 1920 and is mainly based on the Indian Boilers Act.

3. Mr. K. R. Srinivasa Iyengar who was then Member in charge considered that the proposed Regulation and the Rules were suitable and suggested that action might be taken to have the measure placed before the Representative Assembly and the Legislative Council.

Page 8 Office Notes

-do-do- 4. The then Dewan Sir Banerji said "I agree but some working rules may be framed to enforce the provisions of the

Regulation

Regulation in the meantime".

5. The Director of Industries & Commerce who was requested to prepare draft rules under the old Regulation has done so. When these rules came before Mr. K.R.Srinivasa Iyengar, he noted that the rules drafted by the Director of Industries & Commerce which are based on the Madras Government rules under their old Act ~~are~~ were all right and ~~may~~ might be approved. But before the Rules ~~are~~ were framed and brought into force, he thought it necessary to appoint one or more Inspectors of Boilers and Prime Movers. He, therefore, suggested that having regard to the salaries paid in the Madras Presidency for persons with necessary qualifications, one Inspector of Boilers on a salary of not less than Rs 500 per mensem might be appointed with a suitable establishment under him costing about Rs 200 per mensem and that the Inspector might be placed under either the Agent, Mysore Railways, or the Chief Engineer, or the Chief Inspector of Mines.

A

Pages 15 & 16 of office Notes

101 6. The inspection work, for the present, is not heavy and might well be looked after by the Industrial Engineer of the Department of Industries & Commerce. This officer possesses the qualifications and experience necessary for attending to the work. ~~of the Boiler Inspector~~ It is not necessary, in these circumstances, to appoint a separate officer for this work and incur additional expenditure. As the old law has not been worked so far and as it is only now proposed to frame rules under it and appoint a Boiler Inspector, it is not necessary now to consider the question of amending the law itself and it may be deferred for some time.

B

102 7. The matter was considered in Council who have resolved as follows:-

Page 30 of Office Notes

> "The Industrial Engineer may be appointed as Inspector of Steam Boilers. Necessary steps to be taken to introduce rules under the existing Regulation. The question of amending it may be deferred for the present."

The

Submitted to His Highness.

104 *I submit herewith a Final Note by the* SECOND *Member of Council on the subject of* Rules under the Regulation for inspection and management of Steam Boilers and Prime Movers, 1920, and the question of appointing a Boiler Inspector,

for His Highness' gracious approval.

Mirza M. Ismail
Dewan.

24/7/26

No 83
23-7-26

Record of Cases submitted for the Orders of His Highness the Maharaja.

Subject.

Appointment of the Industrial Engineer as Inspector of Steam Boilers.

105

Order.

KRW
29/7/26

C. Secy

29.7.26

36

C 281

General and Revenue
Secretariat

SUBJECT

Appointment of the Industrial Engineer as Inspector of Steam Boilers.

166 Circulated to Members of Council for perusal of His Highness' orders before /after issue of orders. (*Vide* Rules 31, 33 and 34 of the Subsidiary Rules for the conduct of business of Council in the Manual of Council Rules and Procedure.)

By Order,

Chief Secretary to Government.

Through the Secretary to Government,

....Department.

(*)

31. All urgent or confidential files returned with His Highness' orders may, in the absence of instructions or indications to the contrary, be ordinarily circulated to the Members of Council for perusal after the issue of orders.

33. The Secretaries concerned should see that orders in the cases referred to above are issued at once and that the files are returned immediately after to the Chief Secretary for circulation to the Members.

34. In all other cases, the files will first be circlated to the Members of Council at headquaters and then sent to the Secretariat coneerned for the issue of orders.

1295
31/7/28

770
31-7

107
FIRST MEMBER OF COUNCIL. 3/8

108
SECOND MEMBER OF COUNCIL. Have not Rules have to be issued first + then this appt made
31/7/26

~~EXTRA MEMBER OF COUNCIL.~~

3/8/26

NOTE - Contn. sheet.

810 p 76

6822✓

37

WD 01264—GPB—40,000—17-12-25

[App. F. III—2

General and Revenue
Secretariat

Dte File No. 76 71 of 1926.

Serial No

page 15 of rules

OFFICE OF THE
SECOND MEMBER OF COUNCIL
6 AUG. 1926
No. 1005

109 The Rules can only be made after previous publication (vide Section 24 of the Regulation) The Rules will be published in the Gazette and objections called for within two months. The appointment has, it seems, to be made after the rules come into force, so that the Inspr. may enforce the rules.

Sub. for orders — Refce 2nd Member's remarks in para 108.

MKR
4.8.26.

110 Vide [illegible] Mr Srinivasaiengar's [illegible] of the 14th Dec

Ch Secy)

WP
5/8

111 Appointment will be notified after rules are approved

2nd Member

7/8/26

112 I agree

WP
7/8

113 Draft Rules may be published

8.8.26

WP
9/8/26

Sub. with draft Notification of appt

MKR
13.8.26

Ch Secy)

WP
14/8

114 Issue after scrutiny
([illegible] Abdul Khan

14

Asst Secy
Provl Br (Mr C. A. Gani.) with comps

WP
16/8

115 I have carefully gone through the proposed Rules & find that they are practically confined to the examination of Boilers. They are instructions for the guidance of

NOTE—Contn. Sheet

Serial No

Inspectors, in the examination of boilers & are not the rules contemplated under the Regulation (vide Section 24) — with the exception of rule 9 which prescribes the fees for examination & rule 6 (c) which prescribes the register to be kept under Sec 9. Secs 5 & 6 which deal with the examination of Boilers, do not contemplate any rules regarding the examination of boilers & ~~rules if any~~ instructions, if any, for the guidance of the Inspectors in their examination may be issued to them & may find a place in any manual, they may not be called 'Rules' issued under the Regulation, as if any duty is cast by them on any person, the breach of which is liable to be noticed under law.

It cannot be said that 116 no rules are necessary under the several clauses of Sec 24. It is only rules framed under Sec 24, that need previous publication. It is doubtful if the proposed rules can be brought under Cl (f) of Sec 24, in view of the fact that Secs 5 & 6 do not contemplate any rules. The public are not interested in these instructions ~~to Inspectors~~ & Technical details to Inspectors, except perhaps where a license is refused & the decision of the Inspector is challenged in appeal.

WD 01264—GPB—40,000 17-12-25

[App. F. III—2

General and Revenue
Secretariat

File No. 5711 / 19 of 192

Serial
No.

117 As action is being taken to frame rules under the Regulation, it appears desirable to once for all ~~[illegible]~~ frame all rules that are necessary & are contemplated in Sec 24 & when publishing them in the Gazettee, to include the rules under discussion, either as an appendix or in the body of the Rules themselves, if it is held ~~that~~ the provisions in the present ~~draft~~ may be treated as Rules ~~under~~ the Regulation. It is submitted that these are instructions for the guidance of Inspectors & may be issued separately to them. If they are to be incorporated as rules, they may have to be recast, and stripped of purely ~~[illegible]~~ advisory & other matter, such as that contained in rules 11, 16, 18, 29, 3[illegible]

Asstt Secy I&C
with Calyts)

cal
24/8

REV. SECR.
25
INDUSTRIES & COMMERCE
BRANCH.

Mr MIER.
please bring up
WE 26/8/26

118 The draft Rules that are now proposed to be published, are based on the Rules under the Madras Steam Boilers & Prime Movers Act 1893.

119 As pointed out by the Prot^n Branch, it seems desirable to frame all necessary rules contemplated ~~in~~ Sec 24. of the Regl^n, simulta The Industrial Engineer with whom I discussed the matter, was of opinion that those provisions may also be necessary and that he would write for the literature on

NOTE—Contn. Sheet

WD 01264—GPB—

App. F. III—2]

General and Revenue Secretariat

U.O.

I & C File No. 78 — 1822 — of 1924

Serial No.

the subject (Rules, Instructions etc) in Madras. The idea of embodying the technical portions (formula of calculations etc) in the Rules, is to make such calculations known to the public and binding on them, in the event of any litigation.

120 It is suggested that the file may now be sent U.O.ly to the Dir. of I & C. for remarks (on the note of the Pubn. Branch above) and for sending up, if necessary, a revised set of draft rules.

Ch Secy)

WQ
23/9/26

121 The note of the Publn. Branch of C. Sect. inf. The file contains ~~[illegible]~~ confidential matters

[illegible]
25/9

WQ 27/9

Subd. with draft.

Mkr
30.9.26

122 Appd. Please issue & submit.

WQ 4/10/26

16. To the D. of I&C D. 2552 / ~~8.10.26~~.

Calls for a Revised Set of rules.

123 Resubd. as directed (Paras 112 & 113)

Subd for perusal —

Mkr
9.10.26

Second M.)

WQ
12/10

Please no. the paras. WQ 12/10.

OFFICE OF THE
SECOND MEMBER OF COUNCIL
12 OCT. 1926
No. 2702

124 Seen

WQ 13/10

Pro ~~12/10/26~~ 12/10/26

N. & REV. SECRETARIAT
13 OCT 1926
STRIES & COMMERCE BRANCH

NOTE—Contd. Sheet

41

[App. F. III—2

General and Revenue
Secretariat

File No. 6522 of 192

Serial No.

125 Asst. Secy's. orders in the file H. 1-27-1
" 28th case reminder.

3.8.27

To the Dir. of I & C
No. D. 1434 d/4.8.27
Reminds him to submit the revised rules as the administration of the Regn. cannot be postponed any longer.

126 Extracts of

II Member's orders in the H. file 1-27-1 (relating to the bursting of the Boiler tubes of the Steam Engine attached to the Saw Mills, Shimoga) —

"Should rules under the law issue before appointing him (Inspector Engineer) Inspector? If not draft appointing him may be put up."

2 ..... The question whether the latter's appointment as Inspector under the Boilers Law can be notified before the rules issue — which is another point that I have raised — may be considered"

127 Please see paras 109 to 112 of the Notes. This may perhaps be referred to the L. & L. Secy. for favour of opinion whether ~~the~~ Mr. Appadorai Mudaliar may be appointed Inspector of boilers under the law before the issue of the rules under the Regn.

Subd. for orders

4.8.27

128 May be referred to L & L.

129 L & L Secy (with Dev Secy's compliments)

10/8

NOTE—Contn. Sheet

8109/P 208

4

App. F. III—2]

General and Revenue
Secretariat.

File No. of 192

Serial No.

130 There is nothing in law to prohibit the appointment of an Inspector. In practice no appointment ~~Can~~ be made ~~without ascertaining~~ before duties to be performed by an appointee could be defined.

~~[illegible]~~
Dev Secy
with compts

22/8

Development Board) /

28/8

131 Sub to 2d Member in ~~Orders may be issued appg the~~ ~~[illegible] Inspr of Boilers~~ person for orders.

24 8 27

132 The draft rules as they now stand may be ~~published~~ for Suggestions & Criticism. Any changes necessary may be made when the need therefor arises.

24.8.27

133 P.S. Very prompt action is necessary for appointing ~~the~~ an Inspector and getting boilers examined by him.

24.8.27

134. Dft notification is submitted for approval. There is no period specified in Regn No III of 1920 for inviting objections. The

NOTE—Contn. sheet

WD 0324—GPB—60,000—24-5-27

810826 4602 43

6822

App. F. III—2]

General and Revenue Secretariat.

File No. of 192

Serial No.

General clauses Act two does not specify the period that should be allowed to lapse between the publication of draft rules & ~~final issue~~ consideration. It only prescribes "there shall be published with the draft a notice specifying a date on or after which the draft will be taken into consideration." We may therefore issue ~~either retain within~~ "~~two months~~" ~~as in~~ the draft notification, as revised or fixing ~~a date, say~~ 15th ~~December~~ October 1927. This gives time of nearly ~~a month~~ 3 weeks to the Supdt Govt Printing to print the notification & the draft rules & about a month to the public.

There is no particular form prescribed in which the notification should be published.

25-8-27

Dev Secy)

135 ✓ L. Secy with compliments for opinion as to the sufficiency of notification

136 The draft notifn is all right ~~I think it is sufficient~~ 25.8.27

8
25/8

137 / issue

138 Please put up ofc reminder to Dr IRC to expedite his proposals

26/8

Put up for discussion

27.8.27

29.8.27

GEN. & REV. SECRETARIAT
27 AUG. 1927
DEVELOPMENT BRANCH

Development Branch

Issued ...

NOTE—Contn. sheet

WD 0324—GPB—60,000—24-5-27

44

App. F. III—2]

General and Revenue Secretariat. 9c File No. 78 of 1927.

Serial No.	
17	To the Compiler & Copy to Dist: [illegible] No. D. 2244 of 2.9.27 publishes the Rules under the Regn. for the information of the persons likely to be affected thereby & gives notice that the draft will be taken into consideration on or after 15th Oct. 27 & that any objection or suggestion recd. before the said date will be considered

P. J. C.

NOTE—Contn. sheet

1617 (45

REPLY

(To be written on this margin.)

Memo No. 92.

OFFICE OF THE SECOND MEMBER OF COUNCIL.

NOTE

Dated 25th August 1927.

139)

The Industries & Commerce Board may be requested to express its views on the draft rules under the Boilers' Regulation.

140)

Development Secretary with compliments.

25.8.27

GEN. & REV. SECRETARIAT, 26 AUG 1927 DEVELOPMENT BRANCH.

1617

25-8-27 Dft Sd/- 25/8

141) Subd. with a draft. [With further refce to the Secy's orders in para 138, kind refce is invited the Director's letter D/ 20.8.27 (Flag 2) stating that the rules will be subd. by the end of this month].

3.9.27

VS

~~Have we got the rules from the Dir? It is enough if the I&C Board is consulted after the rules are received~~

142) Issue Dft Sd/- 5/9

5/9

To the Secy. Bd. of I&C.

18 D.2472 d 8.9.27

calls for the views of the Bd. of I&C on the draft rules.

46 2496

App. F. III—2]

General and Revenue Secretariat. Dc File No. 78 of 1924.

Serial No.

143) Refce is invited to the notification of 22nd Sept. 1927 directing the publication of the draft rules under the Regn. & calling for objections & suggestions thereon before the 15th Oct. 1927. But the draft rules have not even appeared in ~~yesterday's~~ this week's gazette.

144) A dft. D.O. is put up requesting the ~~Su~~ compiler M.G. to publish it in the next gazette without fail (there is no issue of the gazette during the Dasara Holidays 3rd to 13th) & to send 75 ~~ct~~ spare copies of the rules for refce.

MKA
23.9.27
24

145) Issue immediately

24/9

To

the Compiler M.G.

D. 3288 of 24.9.27

Requests him to publish the dft. rules in the next gazette without fail & to send 75 spare copies of the dft. rules.

P. S.

GEN. & REV. SECRETARIAT
27 SEP. 1927
DEVELOPMENT BRANCH.

NOTE—Contn. sheet

7830

47 App. F. III—2]

General and Revenue
Secretariat.

2 K File No. 78 of 1926

Serial No.

19

From the Secy. Bd. of Dk
no. 1001 Dt 15.3.28.

States that the report of the Sub-Committee of the Bd., appointed to go through the rules, was considered by the Bd. of Dk who were of opinion that it is necy. to prepare rules covering all the ~~[illegible]~~ points referred to in Section 24 of the Regulation & that the rules framed by the Sub committee might be accepted except the provision regarding the issue of certificates of the 4th class mentioned in Rule 24, which may be deleted.

146) The Dir. of Dk has not yet sent up the revised set of rules ~~called for from him~~ in the light of the remarks made by the Legislative Br. (called for from him) ~~[illegible]~~ A dft. D.O. reminder is put up requesting him to expedite the rules.

147) Subt. for perusal & orders

11.4.28

148) App. Please issue & submit.

WP
11/4

NOTE—Contn. sheet.

C99/P 830 ~~5986~~ 49

App. F. III—2]

General and Revenue
Secretariat.

I&C File No. 78 of 192 4

Serial No.	

suggested by the B^d of I & C and accepted by the Dir of I & C.

MQ.
26/4

155 The Sub-com. of the Bd. of I&C have prepared a Separate Set of draft rules which have been approved by the Bd. of I&C, except for a ~~small alteration~~ the omission of the last clause under ~~Rule~~ Rule 24. Detailed instructions ~~to~~ re- the examination of boilers which had been framed under the rules originally ~~to~~ published in the Gazette, have been omitted by the Bd. of I&C. These rules viz 10 ~~to~~ 36 ~~(with the enclosed)~~ & (with its appendix) may perhaps be added as appendix ~~to the~~ Rules app. by the Bd. of I&C for the reason given in para 119 of the Notes.

Yes, as appendix.

L

156 Objections or Suggestions were called for from the public on the Rules published in the Gazette but so far there has been no response.

157 The Rules now proposed may be referred to the Protection Branch for Scrutiny, ~~&~~ before they are published.

Yes

Sub^d. for orders.

[illegible]
31.5.28

158 For perusal, before referring the file to the Prot^n Branch—

Sec^y D)

MQ
3/6

NR
4 6 28

Prot^n Branch)

MQ 5/6

NOTE—Contn. sheet.

[illegible] 5/6

C 99/P 227 ([illegible])

8886 10

App. F. III—2]

General and Revenue
Secretariat.

File No. of 192

	Serial No.	
Mr. K. Ramanna has been requested to send the Bombay Madras Rules		159 The file may be sent to the Dev. Br. for kindly putting up the Madras & Bombay rules which appear to have been obtained from the I&C Dept for reference.
		[illegible] 4.7.28
		To the [illegible] Devt. Branch with compliments for kind compliance.
		160 Bombay & Madras Rules obtained from the Dept. [illegible] & put up.
		Protection Branch
		9.7.28
[illegible] 9/7	161	Rules in force under the Indian Boilers Act in Madras & Bombay are herewith put up. The Rules proposed follow the Madras rules in certain respects only and differ from the Madras rules in a great degree. Even our Regn differs from the British Indian Act. ~~Section~~ Eg. Section 24 (a) of our Regn corresponds to S. 29 (a) of the Indian Act. Some of the Madras Rules which are not brought into

JULY 1928
DEVELOPMENT BRANCH

NOTE—Contn. Sheet.

General and Revenue Secretariat.

File No. of 192 .

Serial No.

Our rules seem to be really important. Further expressions ~~[illegible]~~ like 'accident' seem to have some special significance. These have been defined in the Indian Act but not in our Regln. It is perhaps necessary to define the term in the rules at least.

Subd for orders with refers

Bree
14/7/28

162 ✓ The following remarks are offered in regard the rules as now framed:—

(i) Rule 5 (f), (g) & (i) require the Inspector to keep registers of (a) licenses suspended or revoked under sec 12 (b) result of appeals under sec 13 & (c) certificates of competency & service: secs 16 & 19. But there is no provision made in the rules for information about these items being sent to the Inspector by the authorities concerned.

163 (a) It is the Inspr himself that takes action in this direction vide rule 7(c). He may be expected to keep himself informed of the result of such action.
(b) Provision made in para 2 of rule 26 seems sufficient.
(c) A rule may be added requiring the Dir, I.Pe. to furnish this information to the Inspr.

(ii) Rule 7 (c) requires the Inspector to take action for prosecution under the Regn (Sec 22) & for withdrawing or revoking or suspending license under sec 12. It is not stated who is the person authorised to revoke or suspend a license under sec 12. Perhaps this will be done by a separate notification.

It is necessary to appoint this authority.

The rules do not also make mention

164

NOTE—Contn. Sheet.

23987 (52

App. F. III—2]

General and Revenue
Secretariat.

File No. of 192

Serial
No.

of the relation of the Inspector with the person authorised under Sec 12

(iii) Rule 8 laying down the scale of fees does not say how the fee is to be paid — whether in cash along with the notice under Sec 5(1), or by crediting to a treasury & ~~placing~~ sending the ~~vouchers~~ receipt with the notice]. Sec 5 (4) requires the fee to be paid simultaneously with the notice. Though the provision in the Indian Act is similar, the Madras rule requires the fee to be deposited in a Govt Treasury or the Imperial Bank.

165
A rule to the following effect may be added —
"All fees payable under ~~the Regulation~~ ~~[illegible]~~ These Rules shall be paid into a Govt. Treasury."
N

166 It is not clear if a notification has been issued fixing the areas in which & the dates from which the Regulation is to come into operation; vide Sec 1 (2). Notifications have also to be issued under Secs 3(2), 4, 12 & 15

An
27/7

167
without such a notification the Regn. cannot come into operation.
N

168 Reference is invited to the marginal notes above.

169 The Draft Rules seem to be all right so far as they go. But they do not cover all the matters to be regulated by rules or by separate notification.

170 The following points require consideration, in addition to those referred to in the notes above:

(1) S. 1(3) — If it is intended to exempt

NOTE—Contn. Sheet.

8886

C[illegible]

General and Revenue Secretariat.

HC. File No. 78 of 1924 (53

Serial No.

boilers or prime-movers used in any vehicles or class of vehicles from the operation of the Regulation, such vehicles have to be specified by notification.

(2) S. 4. The date after which the use of a boiler without a license ~~is~~ would be an offence punishable under S. 22 (2) (a) has to be notified.

(3) S. 9. re marking of boilers — Para 1 of draft rule 26 is not sufficiently clear. Cf. Rule 33 of the Bombay Rules.

(4) S. 13 (4) — Rules have to be framed for the Dt. Magte summoning assessors to assist him in the disposal of appeals.

(5) S. 15 — The date contemplated in this Section has to be notified.

(6) S. 25. How far the provisions relating to boilers should ~~[illegible]~~ apply to prime-movers has to be decided & notified.

171 ~~[illegible]~~ If the rules, as finally revised, ~~are~~ turn out to be materially different from those already published ~~[illegible]~~ for criticism, they will ~~[illegible]~~ have to be published once again in draft before ~~[illegible]~~ they are issued.

Secy)

[illegible]
30/7

172 In regard to (1) to (6) [draft of supplementary] rules may be called for from Dir.
(2) is import, & a date has to be fixed. Perhaps 1st July 1929 would do.
(3) The Bombay rule may be adopted, in lieu of para 1 of rule 26.

Orders

Case worker to bring [illegible] up

31/7 [illegible] 31/7

173 My opinion is placed below

[illegible]
10/12/28

Dev Secy
with Compts.

174. C.W. Please bring up with Boiler Regn

[illegible]
12/12/28

OPINION.

----

175 I These papers relate to the rules to be framed under the Mysore Steam Boilers and Prime Movers Regulation, 1920. This Regulation was based on the Madras Act of 1893 which was repealed and incorporated in the Indian Boiler's Act of 1923. The rules framed by the Madras Government under the old Act were made the basis of a set of draft rules published in the Mysore - - - Gazette of the 29th September ~~1929~~ 1927. But on scrutiny, it was found that they did not cover the whole ground contemplated in Section 24 of our Regulation and mostly consisted in technical instructions to Inspectors. The present draft rules were thereupon prepared by the Sub Committee of the Board of Industries and Commerce, on the basis of the Madras and Bombay rules framed under the Indian Act of 1923 with such modifications as were necessary to suit the Mysore Regulation.

176 II I have carefully gone through the rules and suggest the following alterations:

Rule 6.-- As drafted this does not read properly.

Clause 1 may be as follows:--

"The main duties of the Inspector, as laid down in the Regulation are the inspection and examination of boilers and Prime movers. Inspections shall be carried out in accordance with the instructions given in the appendix attached to these rules."

may be accepted [illegible]

Begin clause (2) with the following words "In addition to the above"

ditto

Rule 8.-- The manner in which the fees

They may be paid to the Try, & the receipt ~~enclosed~~ produced

have to be paid has to be made clear.

Rule 12.-- Put a full stop after the words "on application" in line 4, and add

"In the event of a candidate being unavoidably absent from any examination for which he has paid a fee, the Director of Industries and Commerce may in his discretion, allow him to appear without any fresh payment, at any examination held within one year of the examination for which the candidate had paid the fee.

May be accepted

Rule 15.-- Add the word "character" betwee between the words "to" and "Sobriety" in line 2.

May be accepted

Rule 21.-- The second sentence may be as follows:--

"For every subsequent application in respect of which the applicant is allowed to appear the provisions of rule 13 shall apply."

May be accepted

TH

177

In addition to the rules drafted, the Regulation contemplates rules or notifications on the following additional points:--

(1) Specifying vehicles or classes of vehicles, the boilers used for which are exempt from the operation of the Regulation (Section 1 Cl. 3)

(2) Notifying the day after which use of unlicensed boilers is prohibited (Section 4)

(3) Prescribing the form in which the boiler has to be registered (Section 9)

(4) Specifying the person, authorised to revoke or suspend the license granted by the Inspector (Section 12)

(5) Directing the manner in which the District Magistrate has to summon assessors (Section 13 Cl.4).

(6) Notifying the date from which and the places in which the Regulation is to be in force (Section 1 Cl.(2)

8923
6281

56

REPLY

(To be written on this margin.)

M.239

Immediate
2.10 PM
Lor 31/1

OFFICE OF THE
FIRST MEMBER OF COUNCIL.

NOTE.

Dated 30th January 1929.

179 I have made several enquiries in regard to the Rules under the Steam Boilers and ~~Prime~~ Prime Movers Regulation. The draft of these Rules has been hung up somewhere and there is indefinite delay in dealing with them. This is unsatisfactory and it is necessary to take the promptest action in the matter.

Mea
30.1.29

Development Secretary
with compliments.

180 Please let me have the file, with a note on the course of the delay. I am sorry there should have been occasion for this

31/1/29

urgent
CLR 31/1

DEV. BRANCH
6281
31 JAN. 1929
DEVELOPMENT BRANCH

1/2

181 A copy of the Rules with the alterations suggested by the L & L. Secy. is in the file.

182 The file may, perhaps be referred u.o. to the Dir. of Ind for drafting rules under items (1), (3), (4) and (5) referred to in para III of the L & L. Secy's note

31.1.29

Secy DJ

CLR
1.2.29

6281)

57

App. F. III—2]

General and Revenue Secretariat.

I&C File No. 78 of 1924

Serial No.	
	183. The suggestions of the L. Secy will be sent to the Dir. I&C for being considered, and embodied in the Dft. rules.
	184. I am sorry for the delay in dealing with this matter.
	U R 4.2.29
	(1st Member)
	Cev 4/2
	185. A. Yes
	5.2.29
	U R 5.2.29
	Cev 5/2
	186. Dft. Subd for appd.
	6.2.29
	187. Issue Cev 6.2.29
21	To. The Dir. I&C
	No. D. 8152 dy 11-2-29
	Forwards a copy of the L.S.'s opinion on the Rules and calls for Draft rules on the suggestions of the L.S.

OFFICE OF THE FIRST MEMBER OF COUNCIL
4 FEB. 1929
No. 4660

GEN. & REV. SECRETARIAT
13 FEB. 1929
DEVELOPMENT BRANCH.

NOTE—Con'tn. Sheet.

PSO

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General and Revenue
Secretariat

Dev File No 78 59/7491 of 1924

Serial No.

23

To. The Compiler M.G.
No. D. 10331 dt 6.4.29.

Notifies the revised Offl. rules under the Steam Boilers ~~and Prime~~ Movers Regn. and calls for criticisms from the public before 6.7.29.

Copy to the Dir. Dev., & Secy. Bd of Dev.
Nos. 10332-3 dt 6.4.29

Sur 13 till 6-7-29

GEN. & REV. SECRETARIAT
8 APR. 1929
DEVELOPMENT BRANCH.

193) No objections or suggestions to the Draft rules are received till now.

194) Subd for orders if the Rules may now be notified finally.

Ks
3/7

OFFICE OF THE
FIRST ... COUNCIL
2 AUG. 1929
No. 798

1/8

Dev Secy

Eng 31/7/29

195) The Rules may be notified finally

1st Member

1.8.29
Eng

Note —Contn. sheet

WD 021—GPB—30,000—21-8-28

Serial No.

196) This Regulation was passed in 1920 and it ~~is~~ has still not been brought into force. The British Indian Law relating to Steam Boilers was consolidated and amended in 1923 and there are important points of difference between our Regulation and the British Indian Law. The Committee appointed in G.O. dated 22nd July 1924 recommended the amendment of our Regulation on the lines of the later law of British India, but no action on the lines suggested was taken. It is desirable to enforce the law as it stands for ensuring the safe working of Boilers and I do not think it is advisable to delay action in the direction of administration of the existing law on the ground that it is not as up-to-date as the law in force in British India. The question of amending the existing Regulation may be taken up later on and in the meantime, action taken for bringing into effect the law already in existence.

197) Section 1 (2) of the Regulation provides that it "shall come into froce on such ~~date~~ day and shall extend to such places and from such date as the Government may, by notification in the official gazette, direct." The Notification contemplated in this Section does not appear to have issued so far and the first step to be taken is to notify the date from which the Law shall come into force. I do not think it is necessary to limit the application of the Law to particular places and it may therefore extend to the whole State.

(1)

Notifying the date from wh the law comes into force

61

Serial No.

198) The next step is to sanction the Rules required for the administration of the Law. The draft Rules published for criticism may now be considered.

199) Rule 1.- The year "1927" may be replaced by "1929". I do not understand why it is stated that the Rules "shall come into force from such date as may be notified by Government". It is not clear why any date should be notified for bringing the Rules into force. If the administrative organization for working the Law is established, there is no reason why the Rule should not come into force at once. In his note sent as an accompaniment to his letter dated 4-3-29, the Director stated that the "Rules shall come into effect commencing from 1st January 1930". I cannot make out why he considered a notice of about 9 months necessary for putting the Rules into effect.

200) Why the second para of Rule 1 is enclosed in quotation marks is not evident. These marks should go.

201) Rule 3.- As it is now drafted, this Rule appears to contemplate the appointment of only one Inspector for the whole State. I am not sure if one officer can look after all the Boilers in the whole State.

Get [illegible]

202) The next question for consideration is who are the officers to be appointed as Inspectors and what should be their respective jurisdictions. According to this Rule, an Inspector "shall be a qualified mechanical engineer with

practical experience of Boilers, Prime-Movers and Machinery". If the Industrial Engineer and the Superintendents of Industries may be taken to possess this qualification, the latter may be appointed as Inspectors in their respective jurisdictions except that for the Bangalore City the Industrial Engineer may be the Inspector instead of the Superintendent of Industries, Bangalore. A connected question is who should be appointed as the Inspector for the Kolar Gold Fields area. It is here that the largest number of Boilers are in existence. One solution would be to appoint the Chief Inspector of Mines as the Inspector of Boilers of this area but it is doubtful if he can be considered as "a qualified mechanical engineer with practical experience of Boilers, Prime-Movers and Machinery".

203) Rule 4.- Who should be appointed as the Administrative Head for the working of the Regulation is an important point for consideration. As this Rule is drafted, it provides for "the Director of Industries & Commerce or any other authority that may be appointed by Government" as the Administrative Head. If the Industrial Engineer and the Superintendents of Industries are appointed as Inspectors, it is appropriate to appoint the Director of Industries & Commerce as the Administrative Head, and the words "any other authority that may be appointed by Government in this behalf" may be omitted.

(2) appointment of functionaries

204) Rule 5 (e).- As we shall have no whole time Inspector of Inspectors, there will be no record of work done by our Inspectors "from day to

to day". This Rule will have to be suitably revised.

205) Rule 6 (1).- Here again, this portion is enclosed in quotation marks which are unnecessary. The words "the main duties of the Inspector as laid down in the Regulation are" do not go well with the opening part of the Rule, namely, "the main duties of the Inspector are" and they may, therefore, be omitted.

206) This Rule refers to instructions to be issued by Government and these instructions will have to be issued simultaneously with the publication of the Rules.

207) Rule 6 (2).- The first five words, viz. "in addition to the above" are not necessary.

208) Rule 6 (3).- The instructions to be issued by the Director referred to in this Rule are apparently those suggested in his letter dated 20-8-28 and these have also to be notified along with the Rules.

209) Rule 7 (b).- The reports referred to in this Rule are apparently to be made to the Director of Industries & Commerce and this may be made clear.

210) Rule 10.- This Rule provides that the Director of Industries & Commerce, the Professor of Mechanical Engineering, College of Engineering and one other person that may be appointed by Government from time to time should be the examiners for holding the examination for awarding certificates of competency. If the Director

of Industries & Commerce is to be the Head of the organization for the administration of this Law, there is no want of propriety in his being an examiner for conducting this examination on the ground of his being a lay man. Who the ~~The~~ third examiner should be, might, if possible, be mentioned in the Rule itself. The best qualified of the Inspectors or the Loco Superintendent of the Mysore Railways might be the third examiner.

The Dir I&C may be as [illegible]

211) Rule 13.- There is a quotation mark in line 5 which is apparently an error.

212) Rule 22.- Here again, lines 3 to 8 are enclosed in quotation marks. They ~~It~~ should go.

213) Rule 23.- The Rule referred to in line 4 should be Rule 15 and not Rule 14.

214) Rule 28 (1).- This Rule provides for a District Magistrate obtaining the assistance of "two assessors who shall be ~~xxxx~~ fully qualified mechanical engineers and members of a panel of assessors appointed by Government by Notification in this behalf". As cases under this Rule may come up for decision by all District Magistrates, panels of assessors ~~possessing the necessary qualifications are~~ would be necessary and it is not clear if assessors possessing the necessary qualifications are available in all the districts for assisting the District Magistrates.

Please ascertain from Dist. [illegible] if there are in all Districts

215) Rule 28 (2).- By the "Appellate Court" is apparently meant the "District Magistrate" and if so,

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so, the expression "the District Magistrate" itself might be used.

216) Rule 29.- The provision on this point is contained in the Regulation itself and there appears to be no need for this Rule.

217) While appointing Inspectors they may be invested with the power under Section 12 of the Regulation for revoking or suspending licenses; vide para 1 of the Director's letter dated 20th August 1928.

x

218) The provisions of the Regulation do not apply to Prime-Movers unless Government notify their application under Section 25 of the Regulation. The extension of the Law to Prime-Movers may be deferred as suggested by the Director in para 2 of his letter dated 20th August 1928.

(3) Taking Prime movers out of the Regulation [illegible] of the [illegible]

219) While the Boilers Law was before the Legislative Council, the Member in charge of it stated that the Kolar Gold Fields Mining Companies had made certain representations which could conveniently be dealt with in Rules. It is necessary to verify if these points have been dealt with as stated by him.

(4) This may be [illegible]

Mmc
12.8.28

220) Please bring up

K.K.
16.8.29

7491 (66

App. F. III—2]

General and Revenue
Secretariat

D.I.C File No 78 of 1924

Serial No.

221) Dft Notifn and letter to the Dt. Magistrates are sbd for approval as per order at paras 197 & 214).

222) The file may, after issue, be sent un-officially to the Dir. I.C. for furnishing his opinion on the points raised in the Member's minute.

5/9

223 Dfts for approval. The Dir of I.C. may perhaps be asked unofficially to ~~Revise~~ submit revised rules in accordance with ~~the~~ the observation of the member.

13/9/29

Dev Secy

224 Yes

14/9

225. Issue

25 9 29

26/9/29

24 To. The Compiler, H.G.
No D. 3512 d 27. 9. 29
Notifis that Regn No III of 1920 (Steam Boilers & Prime Movers Regn) shall come into force from date of publication in the Gazette.

25. To. The Dt. Magistrate of Nbr
No D. 3513-20 d 27. 9. 29
Refg to Rule 28(1) of the dft Rules,

NOTE—Contn. sheet

WD 021—GPB—30,000—21-8-28

General and Revenue
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IK File No. 78
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[illegible] 28-9-[illegible]

Enquire if there are assessors with required qualification available in the Dt.

226 Forwarded un-officially to the Director of Industries & commerce for favour of submitting of revised Rules, in accordance with the 1st member's minute

By order.

V. Subrahmanyasastry
For Dev. Secy.

28. 9. 29.

R.C. No. 27 dt 30/9/29
H.K.A. 30/9.

No. C2-853/27-28/R.C. 27 / 29-30

Forwarded with compliments -

227 I have carefully studied the observations of the First Member of Council in his minute - dated the 12th August 1929 on the draft rules proposed to be issued under the Mysore Steam Boilers Regulation (Regulation No. III of 1920). I beg to submit my views on the points raised in the First Member's minute.

228 Para 196 - I agree that the law as enacted in Regulation III of 1920 should be enforced before we think of amending our law into conformity with that existing in British India. The law in -- British India is very complicate and it is desirable that the simpler provisions of the present law should be first enforced in the State. A notification has since been published on the 27th September 1929 bringing the law, as enacted in Regulation III of 1920, into force in the State.

229 Para 197 - In spite of the notification, the regula

-tion

Serial No.

Points for orders:

(1) Date from which the rules may be brought into force

(2) Appointment of one full time Inspector & his training

regulation does not actually come into force until the rules are issued by Government. I am of opinion that the rules may be brought into force with -- effect from 1st Jany. 1930 for the reasons given below. It is not desirable to entrust the examination of Steam Boilers to either the Industrial -- Engineer or the Superintendents of Industries. The administrative duties of these officers have already become so onerous that very little time is left to them for development work. The Industrial Engineer has to supervise the working of the ~~working of the~~ Central Industrial Workshop and the - operations in the Well-Boring Section. It is not desirable to impose upon him any administrative -- duties. It is necessary that the workshop should be developed for the manufacture of simple machinery in general use and the Industrial Engineer should have as much time as possible for this purpose. A great deal of the time of the Superintendents of Industries is now taken up in connection with the work under the Factories Regulation and the inspection of Motor buses, so that their more legitimate work connected with Industrial Development suffers. It is necessary that the Superintendents of Industries should have more time to help in the erection of private installations than ~~is~~ at present. I am therefore strongly of opinion that a separate Inspector should be appointed. One Inspector will be sufficient for the whole State excluding the mining area for the present as the number of steam boilers at work is not large⊗ In view of the great efficiency of the internal --

⊗ As regards the mining Area the Chief Inspector of mines may be asked if he will undertake this work

Serial No.

combustion engines, steam engines are not now installed owing to the high initial cost of this kind of power plant and the large recurring expenses necessitated by the high cost of fuel or wood fuel, except in the case of rice mills where paddy husk is available for driving the plant.

230. It is desirable that the Officer appointed to inspect the steam boilers, should be specially trained for this purpose. Only one of our Superintendents at present holds a certificate entitling him to examine steam boilers. I think it will be be possible to get or train a suitable inspector for the purpose if Government are prepared to sanction a sum of Rs 100/- per month. This Inspecto may carry on his work under the Technical supervision of the Industrial Engineer and the administrative control of the Director of Industries.

231. Para 199 - The year "1930" may perhaps be inserted as against "1927" in the draft rules.

232. Para 200 - It is not clear why a good part of the rules are included under quotation marks. Quotation marks were not inserted in the draft rules submitted by this Department. Quotation marks in in the 2nd para of Rule 1 and in the subsequent ~~xxx~~ rules referred to in the First Member's minute, should all be omitted.

233. Para 201 - I have already stated that it is desirable to appoint one separate Inspector for this - purpose. In order to make it possible to appoint more Inspectors when they become necessary the -- words " An Inspector appointed under the rules"

Serial No.

may be substituted for the words "The Inspector" in rule 3.

234 Para 202 - I have already stated that a separate Inspector should be appointed for carrying out the provisions of the regulation.

235 Para 203 - I am of opinion that the Administrative head for the working of the regulation should be the Director of Industries.

(3) Dir I&C to be the adve head

236 Para 204 - The rule as drafted may be retained as a separate Inspector is proposed to be appointed.

237 Para 206 - The draft rules originally published by government (Vide Notification No. D. 2244 I & C 78-24-17 dated 2nd Septr.1927) contain these -- instructions. The matter dealt with is largely technical. The Paras are renumbered. References to Government are replaced by references to the Director as the Administrative Head. These -- instructions may be issued as Appendix "C",

238 Para 207 - Rule 6 (2) The words "in addition to the above" may be removed.

239 Para 208 - Rule 6 (3) Instructions to be hung up in the Boiler Room. This has already been submitted to Government. It is not necessary to publish them along with the rules. If they are to be published along with the rules as suggested by the Member, it may be done as Appendix "D".

240 Para 209 - Rule 7 (b) The words "To the Director of Industries and Commerce" are inserted between the words "report" and "cases" in line 1 of Cl. b. Rule 8 quotation marks are removed.

(4) Leaving the place of the 3d exr open for apptment from time to time

241. Para 210 - It is perhaps not desirable to specify

Case No. 71 *of 192....*

7491

Notes.

Subject :—

to specify in the rules the third person proposed to be appointed to the Committee for holding examinations. A suitable Mechanical Engineer, ~~or~~ either official or non-official, may be appointed from time to time.

242 Para 213 - Rule 23 - The figure 14 is a mistake. It should be 15.

243 Para 215 - Rule 28 (2). For the words "the Appellate Court", the words "District Magistrate" are substituted.

244 Para 216 - Rule 29 may be deleted.

245 Para 219 - I have no information about the representations made by the Kolar Gold Fields Mining Companies in regard to this enactment. If the representations involve any change in the draft rules as now proposed they may kindly be sent to me.

246. The revised form of the draft rules is submitted for the consideration of Government in accordance with the views submitted above.

Ranganatha Rao Sahib

24th Octr.1929 Director of Industries.

CRS-USC)

247 Please see what the repns from the Mining Cos are, & note whether they involve any change in the rules.

248 Go carefully through the rules

Case No.............................. *of* 1

Notes.

Subject :— ....

WD 01711—GPB—4,000—27-4-29

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General and Revenue
Secretariat.

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	and see whether they embody all the corrections & modifications suggested by the 1st Member. 2 & 9. The file may then be sent to me for obtaining orders on the points raised by the Dir. I & C 7 11 29 Exd 7/11/29
26.	From the Dt. Magistrate, Hassan L Dis. J. 2-123-29 d 8.10.29 States that assessors possessing the required qualifications are not available in the District
27	From the DC Kolar 466 d 24.10.29 States that Mr. H. V. Visvesvaraya is a qualified mechanical Engineer & is available for the purpose & that he is awaiting reply from the Mining authorities re-other names
28	From the DC Blore 1862 d 4.11.29 States that there might be no difficulty in getting such men in Bangalore
	From the DC Tumkur 265 d 5.11.29.

NOTE—Contn. sheet.

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States that no qualified mechanical Engineers with the neccy. practical knowledge & experience are available in the Dt.

From the DC. Chitaldrug
30 499 of 7.11.29.

States that excepting Messrs. K. S. Krishnaswami & M. Venkatakrishna Rao, who are reported to be Mechanical Engineers, there are none else in the District who can be recommended to form the panel of assessors.

250. This may be sent ~~to the~~ Protection Br. for favour of putting up the file relating to the Steam Boilers Regulation — Legis.* 54-1916, as it is neccy. to verify whether any representations made by the Mining Cos. are contained in it. It has not been sorted as an "A" collection & the file has not been recd. in the Records.

* Sls 1-16.

US Protection Br. with complts. for favour of compliance
5.12.29

Recorder
Please note when the collection was sent to the Records.
5/12

251. The Manuscript A. Collection may be got from the General Records.
5/12 Dept Bureau Camps).

OTC

Note—Contn. Sheet

WD 066—GPB—30,000—26-7-29

Serial No.

Hagsetk

252 At the time of the passing of the Boilers Regulation, the K.G.F. Mining Bd. made the following representations, ~~which~~ requiring consideration while framing the Rules —

1. That the Chief Inspector under the Regn. should be a qualified Engineer with practical experience gained in Europe or America.

2. That the wide powers given to Inspectors under Section 6 and other Sections of the Regn. should be closely defined under the Rules.

3. That it should be clearly stated in the Rules that it shall not be lawful for an Inspector to interfere with the employees or the working of a boiler without prior reference to the owner or his representative.

4. That the Rules framed under Section 24 should be subd. for ~~the~~ criticism by the Board, before the Regulation is put into force, and

5. That a whole-time Inspector is necy. for the proper inspection of the boilers in the K.G.F. area.

253 As regards 1 and 5 the ~~Dir. of [illegible] has suggested~~ Chief Inspector of Mines has been suggested for being appointed as Inspector for the mining area. He does not however seem to possess "practical experience gained in Europe or

America".

254 As regards 2, detailed instructions are proposed to be issued for the guidance of Inspectors under Appendix C.

255 As regards 3 ~~the following sub para may perhaps be added after Rule 6(1).~~ no such rule as suggested seems necy., since the provn. in Section 5(3) that the owner or person in charge of a boiler shall afford to the Inspector all reasonable facilities for the examination etc. presumes ~~previous~~ intimation of such inspection ~~by an Inspector~~ before it is undertaken. Besides, if such a rule is framed the presence of the owner or his representative will be necy. at the time of an inspection and the parties might easily evade such inspections

256. As regards 4, when the rules were first published for public criticism, the mining Bd. could have subd. their suggestions, which they did not do. It does not seem desirable to postpone the issue of the rules by asking them ~~to~~ furnish their views on them.

257 All the alterations ordered in the First Member's note have been embodied in the Rules, except ~~[illegible]~~ that Rule 5(e) is retained as the Dir. recommends the appointment of a whole time inspector for the ~~Sta~~ whole state except K.G.F area and the third examiner under

3276

General and Revenue
Secretariat

File No. 78 76 of 1924.

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Rule 16 has not been specifically mentioned for the reasons given by the Dir. of I&C.

258 The Dt. Magistrates of Hassan and Tumkur have stated that qualified mechanical Engineers ~~as~~ for being appointed as Assessors are not available in their districts & suitable men may not perhaps be available in some other districts also. A list of qualified mechanical Engineers suitable for being employed as Assessors ~~ee~~ and available in the whole State may perhaps be prepared and the Dt. Magistrates asked to take the assistance of any two of them who might happen to be nearest to the place of hearing the appeal.

Sub for orders with refce to paras 247 to 249

9.12.29.

259 The Dir of I&C recommends that the rules may be brought into effect from 1st Jany 30. This may perhaps be accepted now. The Dir raises the question of the appointment of Inspectors, again & is of opinion that it is not desirable to entrust this work to the Indl Engineer & Supdt of Industries, and that a whole-time Inspector should be appointed. This question has received much consideration already in the past, and in order to avoid any further delay in bringing the rules

Ite 78-77 3276
24

into force, ~~[illegible]~~ the Indl Engineer & the Supdts of Industries may perhaps be treated as Inspectors in the beginning, pending the question of appointing a separate Inspector. Regarding the K G F area, the Chief Inspector of Mines may perhaps be asked if the work can be taken up by him, as proposed by the Dir. From the replies received from the Dist Magistrates, it will be seen that in several districts, qualified persons for being appointed as assessors will not be available. Perhaps persons from other districts possessing suitable qualifications may be appointed as assessors in such cases.

17/12/29

260 The Rules as revised by the Director of Industries and Commerce, in the light of the First Member's minute, may be approved with the following exception:-

261 Rule 5 (e)- In "A diary of work done by him from day to day", the words "from day to day" might be omitted.

~~They~~ The Rules might come into force from the 1st March 1930 which would give us about 6 weeks' time for preparation.

262 Yes

263 Yes but after telling Mr Bocquet that Government [illegible] that he should be the Inspector for K.G.F area

264 The Director proposes that a whole-time Inspector might be appointed to work under the supervision of the Industrial Engineer, and thinks that a competent man can be got or trained for the purpose, on a pay of Rs.100 per month. It is very probable that the inspection of boilers in the

NOTE—Contn. sheet

WD 021—GPB—30,000—21-8-28

K.G.F. area will have to be provided for; and in view of the opinion expressed by the K.G.F. Board, a man with very much higher qualifications than could be commanded by a salary of Rs.100 per month may have to be appointed. It seems to me therefore, that we may have to provide for a post carrying a salary of about Rs.500 per month, either immediately or in the near future, for the satisfactory execution of inspections. This is a matter which must be considered later on; but for immediate purposes, it would be sufficient to entrust the work to the Industrial Engineer and to the Superintendents of Industries, except in the K.G.F. area where the Chief Inspector of Mines may be appointed Inspector. This arrangement will necessarily have to be a tentative one, and as I have already said, it may become necessary to appoint a whole-time Inspector.

265 If these officers are to be appointed Rule 3 requires revision and it may be modified as indicated in the draft. We have no staff specially qualified for this Work and there is no alternative but to use provisionally the existing staff. The three Supts may be Inspectors in their jurisdictions except that for K.G.F. the Chief Inspector of Mines will be the Inspector and for Bangalore City the Industrial Engineer.

266 In regard to the representations of the K.G.F. Mining Board, attention is respectfully invited to paragraphs 252 to 256 of the notes. The Mining Board have not availed themselves of the opportunity afforded by the previous publication of the rules for criticism and suggestions, from which the legitimate inference seems to be that they have none to offer. We need not, I think, accept too literally, the qualifications prescribed by the Board for the post~~s~~ of Chief Inspector. All that they, or any other owners of boilers, can justly demand is that the work should

267 I agree. We can not immediately appoint any specially qualified agency for this. Work

be satisfactorily performed by qualified persons; and this, Government will have, under the arrangement proposed, taken steps to secure.

267 Yes

268 The Rules may be issued immediately. The appointment of functionaries may be notified after ascertaining from the Chief Inspector of Mines whether he is able to work as Inspector of Boilers in the K.G.F. area.

270 Yes

271. There seems to be some difficulty in securing suitable men for the panel of assessors for each district; but a separate panel for each district is not contemplated by the Rules. Please see Rule 28 (1). ~~One~~ a single panel, consisting as far as possible of qualified men of all districts to facilitate selection, might be notified for the whole of the State. In cases of necessity arising in any district to get an assessor from outside, his travelling allowance may have to be provided for.

16-1-30

272 I agree. A fairly big panel may be appointed -

1. Boiler Inspector Ry Dept (Of course he can not be an assessor in cases of when the Ry is concerned) (1st Member)
2. Prof of Mechanical Engineering Engineering Coll
3. The Supt Engineering School Bangalore
4. Mr. H. J. Navesaraya - Engineer
5. Mr Ganesha Iyer (of Bhadravati Boilers)
6. Mr. Viswanath -

& other Mechanical Engineers suggested by Dt Magistrates Roughly 3 from each Dt and about 24 in all.

17.1.30

P.T.O.

17 JAN
No. 4173

3276

General and Revenue
Secretariat

File No. 80

App. F. III—2]

of 192

Serial No.

P. 1

273 It is necessary to have at least one well-qualified Inspector. I understand that there is a regular Course in Boiler Work and probably also an Examn. held by some authority in India. We may consult the Dir. ITC regarding the person to be selected & the training to be given to him.

17-1-30

274 1. Please put up a dft D.O. to Mr Bocquet that Govt consider it necessary that he shd be Inspr of Boilers for the KGF area

275 2. Dft also to the Dir of ITC enquiring whether there is a regular course in boiler work followed by an exam. anywhere in India, and what qualifications he wd require in a Boiler Inspr if a whole time man were to be appd & what training he wd prescribe for him

276 3. Please go carefully through the Rules once again as revised by the Member (see spclly rule 3, & rule 5(e))

277 4. Please put up notifns, bringing the rules into operation, & apptg functionaries

278 5. Please prepare a panel from infn to hand, & ask Dir ITC whether he has other names to suggest

17 1 30

Early. [illegible] 17/1

Note—Contn. Sheet

WD 01684—GPB—30,000—20-4-29

7491 5102
3276 6119
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81

App. F. III—2]

General and Revenue
Secretariat

24c File No. 78 of 1924

Serial No.

From the D.C. Kolar
L. Dis. 898/29-30 d. 10.12.29
States that there are only two qualified Mechanical Engineers in the District viz. Messrs. L.A.H. Winckler & M.G. Sampatkumarachar.

From the D.C. Shimoga.
L. Dis. G.1. 651 d. 18.1.30
States that the Supdt. of Industries is the only G.O. officer available for the purpose.

279. Sub. with the following
1. Dft. to Dir. of I.C. in accordance with orders in paras 275 & 278.
2. Dft. to Chief Inspector of Mines in accordance with orders in para 274
3 Notification publishing the Rules.
4 Notification appointing functionaries under the law.
5. A Stt. of mechanical Engineers reported to be suitable for appointment as assessors.

280 ~~Sub. for orders~~ orders are solicited on the point raised by the Dir. of I.C. in para 239 whether the instructions to Boiler Inspectors (linked file) should be published as App. D of the Rules.

Sub. for orders.

[illegible]
.30

[illegible]
6.2.30.

V S

281 (A) These ~~cases~~ instructions refer to those contemplated in Rule 6 (3) of the rules, and

Note—Contn. Sheet

WD 066—GPB—30,000—26-7-29

(8a)

6119 App. F. III—2]

General and Revenue
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have to be issued by the Dir of I & C. The Dir has stated that it is not necessary to publish them along with the rules. As Rule 6 (3) only requires these instructions to be issued by the Dir, the set of instructions sent by the Dir may perhaps be approved & he may be asked to ~~notify~~ publish them separately at an early date.

282 Yes

283 Rule 6(1) requires that the instructions issued by Govt should be notified separately in this behalf. As however it is proposed to publish ~~them~~ along with the rules as App. C, the words "by notification in this behalf" in rule 6 (1) may be omitted & ~~the~~ replaced by the words "(vide appendix C)."

284 Yes

285 The notification appointing Inspectors may be taken up ~~issued~~ after receipt of the reply from the Chief Inspr of Mines.

286 I don't think a reply is contemplated

Yes

287 3 Dfts are put up for appr.

Eng 13/2/30

Dev Secy)

288 14.2.30

289 Issue

14 2 30

today
Eng 14/2

Please see 1 HC 307-09 (ws) for final orders.

Note—Contn. Sheet

WD 066—GPB—30,000—26-7-29

ADDRESS "INDUS"CO

refer to 629. C1

FROM

G. D'SOUZA, ESQ., B.A., B.L.
Director of Industries and Commerce in Mysore
Bangalore (India)

30339

GOVERNMENT OF MYSORE.
DEPARTMENT OF INDUSTRIES AND COMMERCE.
OFFICE OF THE DIRECTOR,

Dated, Bangalore the 10th January 1925

12

D3466

IC 78-24-2

REV. SECRETARIAT
14 1925
INDUSTRIES & COMMERCE
BRANCH.

9-C

2. JAN. 1925

To

The Secretary to the Government of Mysore,
Revenue Department,
Bangalore.

949/

SIR,

I have the honour to forward herewith the Report of the Committee appointed by Government in their Order No:I.C.565-8/I&C.122-23-7 dated 20-7-1924 to consider the Report on the amendments to be made to the Mysore Boiler Regulation No: III of 1920.

I have the honour to be,
Sir,
Your most obedient servant,

DIRECTOR.

BV.

To

The Secretary to the Government of Mysore,
Revenue Department, Bangalore.

Sir,

With reference to Government Order No: I.C.565-8/I&C.122-23-7 dated the 20th July 1924 appointing a Committee to consider and report on the amendments to be made to the Mysore Boiler Regulation No:III of 1920, we have the honour to submit herewith the report of the Committee.

The provisions of the Mysore Boilers Regulation were carefully gone through by the Committee and compared with those of the Indian Boiler Act No:V of 1923. We were agreed that the use of boilers in the State should be regulated in the same manner as in British India. Our Regulation of 1920 requires modifications in several respects. We had a new regulation drafted for the Committee. The provisions of the draft regulation have been considered in detail to see if they will satisfy our requirements. Copy of the draft regulation as approved by the Committee is enclosed herein for information of Government. It differs from the Indian Act on some minor points which are not important. For example, the Committee
a) thought that it is enough if only one Inspector is appointed for ~~th~~ the whole State to exercise the powers and perform the duties prescribed in the regulation whereas several local Governments in British India have appointed a Chief Inspector and a number of Inspectors working under him. For the same reason the issue of
b) provisional orders authorising the use of boilers under certain conditions is not provided for in the new Regulation. The maximum fine of R^s 500/= laid down in the Indian Act has been reduced to
c) R^{s}300/=. In all other respects the provisions of the draft regulation are similar to those of the Indian Act. A set of draft rules to be issued under the Regulation has also been prepared but can be given effect to only after the regulation has been passed into Law. We request that necessary action may kindly be taken to have

X the

the draft regulation passed into Law at an early date.

We have the honour to be,

Sir,

Your most obedient servants,

Director of Industries and Commerce in Mysore, (CONVENOR)	Sd/- P. G. D'SOUZA.
Chief Engineer of Mysore.	Sd/- J. Bhore.
Chief Inspector of Mines.	Sd/- R. Bocquet.
Loco & Carr Superintendent.	Sd/= E. J. Kelley.

==========

"Copy"

DIRECTOR OF INDUSTRIES AND COMMERCE
IN MYSORE.
(CONVENOR)

BV)

Draft Regulation

PREAMBLE:-

Whereas it is expedient to amend the law relating to Steam-boilers; it is hereby enacted as follows:-

Section:1. Short Title, commencement & extent.

1)This Regulation may be called the Mysore Boilers Regulation [1924.]

2)It shall extend to the whole State and shall come into force on such day as the Government may by notification in the Official Gazette direct.

3) i.Government may by notification in the Official Gazette declare that the provisions of this Regulation shall not apply in the case of boilers or steam pipes or of any specified class of boilers or steampipes belonging to or under the control of the railways administered by Government or by any railway company as defined in Section 3 Clause 4 of the Mysore Railways Regulation 1894.

ii.Government may by notification in the Gazette exclude any specific area from the operations of all or any specified provisions of this Regulation.

Section: 2. Definitions.

(a) 'Boiler' means any closed vessel exceeding five gallons in capacity which is used expressly for generating steam under pressure for use outside such vessel and includes any mounting or other fitting attached to such vessel which is wholly or partly under pressure when steam is shut off.

(b) 'Owner' includes any person using a boiler as agent of the owner thereof and any person using a boiler which he has hired or obtained on loan from the owner thereof.

(c) 'Accident' means an explosion of a boiler or steampipe or any damage to a boiler or steampipe which is

X calculated

calculated to weaken the strength thereof so as to render it liable to explode.

(d) 'Inspector' means any person appointed by Government under this Regulation.

(e) 'Prescribed' means prescribed by rules made under this Regulation.

(f) 'Steam Pipe' means any main pipe exceeding three inches in internal diameter through which steam passes directly from a boiler to a prime mover or other first user and includes any connected ~~piping~~ fitting of a steam-pipe; and

(g) 'Structural alteration addition or removal' shall not be deemed to include any renewal or replacement of a petty nature when the part or fitting used for replacement is not inferior in strength efficiency or otherwise to the replaced part or fitting.

Section: 3. Appointment of Inspectors.

1) Government may at any time after the passing of this Regulation appoint such persons to be Inspector or Inspectors as it thinks fit for the purposes of this Regulation and suspend or remove any person or persons so appointed.

2) The Inspector or Inspectors so appointed shall, within such local 1 area as the Government may direct exercise the powers and perform the duties conferred and imposed by or under this Regulation on an Inspector.

Section: 4. Prohibition of use of unregistered or uncertificated boilers.

Save as otherwise expressly provided in this Regulation no owner of a boiler shall use the boiler or permit it to be used.

a) Unless it has been registered in accordance with the provisions of this Regulation.

b) In the case of any boiler which has been transferred to the State from places outside it, until the transfer has been reported in the prescribed manner,

c) Unless a certificate authorising the use of the boiler is for the time being in force under this Regulation.

d) At a pressure higher than the maximum pressure recorded in such certificate.

e) Unless the boiler is in charge of a person holding a certificate of competency as required by rules issued under this Regulation.

Section: 5. Examination of Boilers to be Registere

1. The owner of any boiler which is not registered under the provisions of this Regulation may apply to th Inspector to have the boiler registered. Every such application shall be accompanied by the prescribed fee.

2. On receipt of an application, the Inspector shall fix a date within 30 days from the date of the receipt for the examination of the boiler and shall give the owner thereof not less than 10 days' notice of the date of examination so fixed.

3. On the date fixed the Inspector shall examine the boiler and determine in the prescribed manner the maximum pressure if any at which such boiler may be used.

Section: 6. Grant of Certificate.

1. The Inspector shall after the examination register the boiler and assign a register number there to either forthwith or after satisfying himself that any structural alteration, addition or renewal which he may deem necessary has been made in or to the boiler or any steam pipe attached thereto or,

The Inspector may refuse to register the boiler ~~provided~~ in which case he shall forthwith communicate his refusal to the owner of the boiler together with his reasons therefor.

8

Section: 7. The Certificate to state certain Particulars.

The Inspector shall on registering the boiler issue to the owner thereof a certificate in the prescribed form authorising the use of the boiler for a period not - - exceeding twelve months at a pressure not exceeding such maximum pressure as he thinks fit and as is in accordance with the rules made under this Regulation.

Section: 8. The Boiler to be marked with the Registry number.

When the Boiler has been registered the owner thereof shall within the prescribed period cause the register-number to be permanently marked thereon in the prescribed manner.

Section: 9. Renewal Of Certificate:-

1. A certificate authorising the use of a boiler shall cease to be in force

(a)On the expiry of the period for which it was granted; or

(b)when an accident occurs to the boiler; or

(c)when the boiler is moved, the boiler not being a vertical boiler the heating surface of which is less than 200 sq.ft. or a portable or vehicular boiler; or

(d)when any structural alteration addition or renewal is made in or to the boiler; or

(e)when the Inspector so ~~[illegible]~~ directs when any structural alteration, addition or renewal is made in or to any steamp pipe attached to the boiler;

(f)on the communication to the owner of the boiler of an order of the Inspector prohibiting its use on the ground that it or any steampipe attached thereto is in a dangerous condition provided that the grounds on which the order is made shall be communicated to the owner with the order.

2. When a certificate ceases to be in force the owner of the boiler may apply to the Inspector for a renewal thereof for such period not exceeding 12 months as he may specify in the application.

3. An application under sub section 2 shall be accompanied by the prescribed fee and on receipt thereof the Inspector shall fix a date within 30 days from the date of the receipt for the examination of the boiler and shall give the owner thereof not less than 10 days' notice of the date so fixed, Provided that where the Certificate has ceased to be in force owing to the making of any structural alteration, addition or renewal the Inspector may dispense with the payment of any fee.

4. On the said date the Inspector shall examine the boiler in the prescribed manner and if he is satisfied that the boiler and the steam pipe or pipes attached thereto are in good condition shall issue a renewed certificate authorising the use of the boiler for such period not exceeding twelve months and at a pressure not exceeding such maximum pressure as he thinks fit and as is in accordance with the rules issued under this Regulation OR

5. After the examination is over the Inspector may subject to the provisions of this Regulation and Rules issued thereunder, renew the certificate in such terms and on such conditions if any as he thinks fit or may refuse to renew it provided he shall forthwith communicate his refusal to the owner of the boiler together with the reasons therefor.

6. Nothing in this Section shall be deemed to prevent an owner of a boiler from applying for a renewed certificate therefor at any time during the currency of the Certificate.

Section: 10. Use of Boiler pending grant of Certificate.

1) Notwithstanding anything herein before contained when the period of a certificate relating to a boiler has expired the owner shall, provided that he has - - applied before the expiry of that period for a renewal of the certificate, be entitled to use the boiler at the maximum pressure entered in the former certificate pending the issue of orders on the application.

2) Nothing in sub section (1) shall be deemed to authorise the use of a boiler in any of the cases referro to in clauses b, c, d, ~~and~~ e and f of sub section 1 of Section 8 occurring after the expiry of the period of the certificate.

Section: 11. Revocation of Certificate.

a) The Inspector may at any time withdraw or revoke a certificate.

a) if there is reason to believe that the - - certificate has been fraudulently obtained or has bee granted erroneously or without sufficient examination.

b) if the boiler in respect of which it has bee granted has sustained injury or has ceased to be in good condition; or

c) if the boiler is in charge of a person not holding the certificate of competency as required by the rules issued under this Regulation or if the boiler is in charge of a person who is not having regard to the condition of the boiler, in the opinion of the Inspector incompetent to have charge thereof.

Section: 12. Alterations or renewals to Boilers.

No structural alteration, addition or renewal shall be made in or to any boiler registered under this Regulation unless such alteration addition or renewal has been sanctioned in writing by the Inspect

Section: 13. And to Steam Pipes.

Before the owner of any boiler registered under this Regulation makes any structural alteration, addition or renewal in or to any steampipe attached to the boiler he shall transmit to the Inspector a report in writing of his intention and shall send therewith such particulars of the proposed alteration, addition or renewal as may be prescribed.

Section: 14. Duty of owner at examination.

1)On any date fixed under this regulation for the examination of a boiler the owner thereof shall be bound,

(a)to afford to the Inspector all reasonable facilities for the examination and all such information as may reasonably be required of him;

(b)to have the boiler properly prepared and ready fo examination in the prescribed manner; and

(c)in the case of an application for the registratio of a boiler to provide such drawings, specifications, certificates and other particulars as may be prescribed.

2)If the owner fails without reasonable cause to comply with the provisions of sub section (1) the Inspector shall refuse to make the examination and unles sufficient cause to the contrary is shown the Inspector may require the owner to file a fresh application and may fobid him to use the boiler notwithstanding anything contained in Section (10)

Section:15. Production of Certificates etc.

The owner of any boiler who holds a certificate shall at all reasonable times during the period for which the certificate is in force be bound to produce the same when called upon to do so by the District

District Magistrate or by the Inspector of boilers, or by the Chief Inspector of Mines or by any Inspector appointed under the Mysore Factories Regulation.

Section: 16. Transfer of Certificates.

If any person becomes the owner of a boiler during the period for which a certificate relating thereto is in force, the preceding owner shall be bound to make over to him the certificate.

Section: 17. Powers of entry.

Any Inspector may, for the purpose of inspecting or examining a boiler or any steampipe attached thereto or of seeing that any provisions of this Regulation or of any rule made hereunder has been or is being observed at all reasonable times enter any place or building in which he has reason to believe that a boiler is in use.

Section: 18. Report of accidents.

(1)If any accident occurs to a boiler or steampipe the owner or person in charge thereof shall within 24 hours of the accident, report the same in writing to the Inspector. Where the accident is fatal the report thereof should be made forthwith to the Inspector. Every such report shall contain a true description of the nature of the accident and of the injury, if any caused thereby to the boiler or to the steampipe or to any person and shall be in sufficient detail to enable the Inspector to judge of the gravity of the accident.

(2)Every person shall be bound to answer truly to the best of his knowledge and ability every question put to him in writing by the Inspector as to the cause nature and extent of the accident.

Section: 19. Appeals against the orders of the Inspector.

~~(a)~~ Any person considering himself aggrie

113

(a)An order made or purporting to be made by ~~the~~ an Inspector in the exercise of any power conferred by or under this Regulation,or (b) a refusal of an Inspector to make any order or to issue any certificate which he is required to make or issue by or under this Regulation or

(c) An order of ~~the~~ Inspector (b)refusing to register a boiler or to grant or renew a certificate in respect of a boiler, or

(d)refusing to grant a certificate having validity for the full period applied for, or

(e)refus~~es~~ing to grant a certificate ~~having~~ authorising the use of a boiler at the maximum pressure desired or

(f)withdraw~~s~~ing or revok~~es~~ing a certificate or

(g)reduc~~es~~ing the amount of pressure specified in any certificate or the period for which such certificate has been granted, or

(h)order~~s~~ing any structural alteration addition or renewal to be made in or to a boiler or steampipe or refus~~es~~ing sanction to the making of any structural alteration, addition or renewal in or to a boiler,

may within 30 days of the communication to him of such order lodge with the Inspector an appeal to the appellate authority that may be constituted by Government for the purpose under this Regulation.

Section: 20. Finality of orders of the appellate authority.

An order of the appellate authority constituted by Government under Section 19 shall be final and shall not be called in question in any Court.

Section; 21. Minor Penalties.

Any owner of a boiler who refuses or without reasonable excuse neglects

(a)to produce a certificate when duly called upon to do so under section 15 or

(b)to make over to the new owner of a boiler a certificate as required by Section 16 shall be punishable with fine ~~rupees~~ which may extend to one hundred Rupees.

Section: 22:Penalty for Illelgal use of a Boiler:

Any owner of a boiler who in any case in which a certificate is required for the use of the boiler under this Regulation uses the boiler without the certificate or uses the boiler ~~without the certificate~~ at a higher pressure than that allowed therey shall be punishable wit fine which may extend to 300 Rupees and in the case of a repeating continuing offen~~s~~ce with an additional fine which may extend to Rs 100/= for each day after the first day in regard to which he is convicted of having persisted in offence.

Section:23.Other Penalties.

Any person who

(a)Uses or permits to be used a boiler of which is the owner and which has been transferred to the State from any place outside it without such transfer having been reported as required by Section 4, or

(b)being the owner of a boiler fails to cause ~~the~~ register number allotted to the boiler under this Regula- tion to be marked on the boiler as required by section 8

(c)makes any structural alteration addition or renew in or to a boiler without first obtaining the sanction of the Inspector when so required by Section 12, or to a ste pipe without first informing the Inspector as required section 13 or

(d)fails to report an accident to a boiler or steam pipe when so required by Section 18,or

(e)tampers with a safety valve of a boiler so as to render it inoperative at the maximum pressure at which the use of the boiler is authorised under this Regulation sal be punishable with fine which may extent to Rupess Thre Hundred.

Section 24. Penalty for tampering with the Reg:Number

(1) Whosoever removes, alters, defaces, renders invisible, or otherwise tampers with the Register Number marked on a boiler in accordance with the provisions of this Regulation shall be punishable with fine which may extend to Rupees Three Hundred.

(2) Whosoever fraudulently marks upon a boiler a register number which has not been allotted to it under this regulation shall be punishable with imprisonment which may extend to 2 years or with fine or with both.

Section: 25. Limitation and previous sanction for Prosecutions.

No prosecution for an offence made punishable by or ~~undexx~~ under this regulation shall be instituted except within 6 months from the date of the commission of the offence and no such prosecution shall be instituted without the previous sanction of the Inspector.

Section 26. Trial of offences.

No offence~~s~~ made punishable by or under this Regulation shall be tried by a Court inferior to that of a Magistrate of the First class.

Section: 27. Power to make Rules.

Government may by notification in the Official Gazette make rules for all or any of the following purposes:-

Ss. 24

(a) for laying down the standard conditions in respect of material design and construction which shall be required for the purpose of enabling the registration, and certification of a boiler under this Regulation,

(b) for prescribing the method of determining the maximum pressure at which a boiler may be used,

(c) for regulating the registration of boilers, prescribing the fees payable therefor, the drawings, specifications, certificates and particulars to be produced by the owner, the method of preparing a b boiler for examination the form of the Inspector's Report thereon, the method of marking the register number, and the period in which such number is to be marked on the boiler.

(d) for regulating the inspection and examination of boilers and steampipes and prescribing forms of certificates therefor;

(e)for ensuring the safety of persons working inside a boiler,

(f)for prescribing the qualifications and duties of the Inspector,

(g)for regulating the transfer of boilers;

(h)for providing for the registration and certification of boilers in accordance with the rules made under this Regulation,

(i)for ~~regulating~~ requiring boilers to be in charge of persons holding certificates of competency and for prescribing the conditions on which such certificates may be granted,

(j)for prescribing the times within which Inspectors shall be required to examine boilers,

(k)for prescribing the fees payable for the issue of renewed certificate and the method of determining the amount of such fees in each case.

(l)for regulating inquiries injuries into accidents

(m)for constituting the appellate authority required by Section 19 and for determining its powers and procedure.

(n)for determining the mode of disposal of fees, cost and penalties levied under the Regulation.

Section

(o)and generally for providing for any other matter incidental to the adminstration of this Regulation.

Section: 28. Penalty for breach of Rules.

Any rule made under Section 27 may provide that a contravention thereof shall be punishable with fine which may extend to one hundred rupees.

Section29. Recovery of Fees.

All fees, costs and penalties levied under this Regulation shall be recoverable as arrears of land revenue.

Section 30. Applicability to the Boilers belonging to Government.

5

Save as otherwise expressly provided, this Regulation shall apply to boilers and steampipes belonging to Government.

Section:31. Power of ~~[illegible]~~ suspension in the case of emergency.

In the case of any emergency Government may by general or special order in writing exempt any boiler or steam pipe from the operations of all or any of the provisions of this Regulation.

Section:32. Repeal of Regulation III of 1920.

On and from the commencement of this Regulation, the whole of the Mysore steam boilers and primemovers Regulation No:III of 1920 shall be repealed.

11/1/25

BV-3*13/12/24.

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Section I&C

File No. 78-24

Serial No. 9.

No. I.C. 8465

retariat
)
the 192

Date of issue 19-6-25

Signed by Mr. V. V. Acharya.

To The Director I&C

Sir,

With ref to your letter no G 629 d/ 12-1-25 re the amendment of the Mysore Boiler Regn III of 1920, I am directed to request that, pending the amendment of the Regn, a set of ~~draft~~ working rules for enforcing the provisions of the existing Regulation may be

List of enclosures

Copied by

Examined by

over

framed as submitted
for the approval of Govt—

I have etc

[illegible] 1876 —

For Secy Rev Deptt

15508

4

No: G.323.CS.
Encl: 3. (1 Draft, 2 Sketches).

Office of the
Director of Industries and Commerce,
(Camp)Mysore, Dated the 26th Septr: 1925.
8th/oct.

GEN. REV. SECRETARIAT
D 1856
1925
INDUSTRIES & COMMERCE BRANCH.

G. D. SECTION
916
9. OCT. 1925

From

Md. Zahiruddin Mecci, Esq., B.A.,
Offg:Director of Industries and Commerce,
Bangalore.

To

The Secretary to the Government of Mysore,
Revenue Department,
(Camp)Mysore.

I&C 78-24-4
3466.

Sir,

With reference to your letter No: I.C.8465/I&C.78-24-3 dated 19-6-1925, re: the amendment of the Mysore Boiler Regulation III of 1920, I have the honour to enclose herein a set of draft rules that may be issued under the existing Regulation.

[illegible]
Recorded.

I have the honour to be,

Sir,

Your most obedient servant,

Md. Zahiruddin Mecci

OFFG:DIRECTOR.

BV.

Draft Rules.

In exercise of the power conferred by Section 27 of the Mysore Boiler's Regulation ~~Act~~ 1924, Government are pleased to make the following rules:-

Short Title.

1. These rules may be called the Mysore Boiler Rules 1924.

Fees.

2. All fees payable under the Regulation ~~should~~ shall be credited to any Government Treasury in the State. Applications for registration of boilers shall be accompanied by the Treasury Receipts.

Qualifications of the Inspector.

3. The Inspector shall be a qualified Mechanical Engineer with practical experience of boilers, primemov and machinery.

4. The Inspector shall work under the administrative control of   and shall submit to hi

(a) an annual report on the administration of the Regulation.

(b) Such other reports and returns as may be cal for.

(c) Such exceptional cases which do not appear to be covered by the Rules or Regulations.

His Duties.

5. The Inspector's main duties are the inspection an examination of boilers and steampipes

(a) He shall attend to the Registration and measurements of all boilers to be registered and make entries in the register of boilers (form A).

(b) obtain in the case of any transfer under Sectio 4 the registration book of the province from which the boiler has been transferred,

(c) enquire into accidents to boilers,

(d) take action in the cases of unreported accide discovered at the time of inspection.

(e) deal with all proposals for increasing or dec ing the pressure of a boiler, for structural alter additions or renewals, for refusing to renew certif and for revolving or withdrawing a certificate in force,

(f)take action against the owners of boilers when the boilers are not prepared properly for examination.

(g)deal with all cases requiring prosecution under the Regulation.

6.It is the duty of the Inspector to search for the unregistered or uncertificated boilers during his tours and to see that certificated boilers are worked in accordance with the terms of the certificate.

7.At the time of inspection, the Inspector should advise the owner on the management and upkeep of the boiler with special reference to the amount of cleaning required in view of the quality of water used. He should issue a set of instructions regarding the maintenance,working and cleaning of boilers which should be hung up in each boiler house.

8.The Inspection should be carried on in accordance with the directions laid in these rules.

9.No boiler should be examined for the purpose of registration and certification on a Sunday or between the hours of sunset and sunrise.

Registers to be maintained by the Inspector.

10.The Inspector shall keep in his office

(a)A Register in form A of all boilers registered in the State or the registering of a boiler which has been transferred from any outside Province. The Registers shall be in two parts. Part 1 -(Boilers originally registered in the State) The Register numbers of a boiler shall be the one immediately following the last serial number in the Register. Gap numbers due to boilers being broken up and transferred to other provinces shall not be filled up. Part II.(Boilers originally registered in outside Provinces)entries to be made as prescribed by rules.

(b)The Registration Book and Memorandum of Inspection Book of all Boilers borne on his register.

(c)Register of appeals.

(d)Register of accidents.

(e)Register of fees received for registration and Inspection.

Administrative Instruction for Registration.

11.Technical Regulations for the registration of boilers and the scale of fees for registration are prescribed in part II of the Indian Boiler Regulation which shall in all respects be deemed to have been issued by Government in accordance with the clauses (a) to (e) of Section 27 of the Regulation. The details of measurement recorded at the time of registration constitute a permanent record for the boiler and determine the original pressure at which the boiler is allowed to work. It is therefore necessary that this work should be done with the greatest care and precision.

12.Application for registration shall be made under Section 5 to the Inspector and shall be accompanied by a receipt for the prescribed fee for having been paid to any Government Treasury. No boiler shall be - - registered if on measurement the fee is found to be deficient until the deficit has been paid. ~~defect/ has been paid to any Govt ment Treasury. No boiler shall be registered if on measurement the fee is found to be deficient until the deficit has been paid.~~ Any excess payment should be refunded as early as possible.

13.It is essential that there should be no delay in registration. The Inspector should issue his orde under Section 8 as early as practicable.

14.Whenever a boiler is transferred into the Stat from outside the owner shall apply for the registrat of the transfer. The boiler cannot be used until t registration has been effected. No fee shall be c for recording transfers.

15.The Inspector should obtain from the Provin from which the boiler has been transferred into

into the State, the registration book and memorandum of Inspection Book of the boiler. On receipt of these the Inspector shall make proper entries under the original number of the boiler in Part II of the Register of - - Boilers.

16. Whenever a boiler has been transferred or broken up, the fact should be noted in the register of boilers. If the boiler is dismantled, the registration book and the memorandum of inspection book should be destroyed.

Administrative Instruction for inspection.

17. In making inspection it is important that the Inspector should pay particular attention to entries made in the memorandum of inspection book at the time of the previous inspection.

18. In arranging for inspections particular attention should be paid to the convenience of the owners of boilers. The notice intimating the date of inspection shall be sent in form B. If any Hydraulic ~~Hist~~ test is necessary in addition to the ordinary inspection, 14 days' notice should be given to the owner. During the inspection of one of a battery of boilers the Inspector should take the opportunity of examining the other boilers under steam with special reference to the water guages, pressure guage and safety valve.

19. The certificate should ordinarily be granted within 48 hours of the completion of the inspection.

20. The fee required to accompany an application for renewal of certificate under Section 9 shall be as follows:-

For boiler rating not exceeding 100	[illegible]/=
" " " Between 100 & 300..	[illegible]/=
" " " " 300 & 500..	[illegible]/=
" " " " 500 & 700..	[illegible]/=
" " " " 700 & 900..	[illegible]/=
" " " exceeding 900 but not 1100.	[illegible]/=
" " " " 1100	[illegible]/=

The Inspector may direct that no fee shall be - - payable in respect of a fresh application made in - -

in pursuance of sub section 8 of Section 14 of the Regulation.

For certificates for a period not exceeding 6 months the fee shall be one half of that prescribed for a 12 months' certificate.

For Certificates for a period exceeding 6 months but not exceeding 12 months the full fee prescribed for 12 months' certificate shall be levied.

Accidents.

21. On receipt of a report of an accident to a boiler or steampipe under Section 18 the Inspector should with the least possible delay proceed to the place to investigate the accident.

22. The Inspector shall at his inquiry make a careful examination of the damaged parts and shall take such arrangements and make such sketches for the purpose of his report as he may deem necessary. He shall - - inquire into the circumstances attending the accident and note the time of occurence, its nature and extent, the injury caused to persons and the damage done to property.

23. The Inspector is authorised to take the written statements of witnesses and all persons immediately connected with the accident. In order to comply with the provisions of the Section 18 the Inspector should present to the owner or person in charge of the boiler a series of written questions on all points that are material to the enquiry.

24. The Inspector must decide whether the use of he boiler can be permitted at the same or at a lower ressure without repairs or pending the completion f any repairs or alterations that he may require. In o case should he issue a renewal certificate until his orders ave been carried out.

25. If the investigation is found sufficient the Inspector will record the facts in his register of accidents and enter a brief account of the accident in the Registration Book, a copy being made in the memorandum of Inspection Book. If however the accident is of a serious nature and in all cases in which an explosion has occurred the Inspector may move Government to appoint a commission to enquire into the accident. Reports of such inquiries, should be recorded as indicated above.

26. Commissions appointed under the preceding rule should ordinarily be consist of the Inspector and one independent person.

27. A brief account of all accidents and their causes should be included in the Inspector's annual report.

28. If in the course of an inspection or at any other time, the Inspector discovers an accident as defined in the Regulation but which has not been reported he shall report the facts to Government and shall take suitable action against the owner of the boiler or the person in charge thereof.

Appeals

29. The appellate authority to be constituted under Section 19 shall consist of an officer appointed by Government (who may be called the President) assisted by 3 persons chosen from a pannel constituted by Government for the purpose of hearing appeals. Assessors shall be competent persons with the necessary practical knowledge and experience, of whom one at least shall be a qualified Mechanical Engineer. The President shall be an Officer with judicial or majestiral experience and shall be appointed for such period as Government may think fit.

30. The Inspector shall under orders of the President arrange for the attenance on the date fixed for the hearing of ~~the~~ an appeal~~s~~ before the appellate authority of at

at least 3 members of the pannel of assessors constituted under Rule 29 to act as assessors.

31. The opinion of assessors shall be recorded and duly considered but the decision of the appeal shall rest with the President.

32. Every petition of appeal shall be made in writing either in English or in Kanarese.

33. An appeal may be presented either personally or by registered post to the Inspector.

34. The petition of appeal shall be accompanied by the original order notice or report appealed against or by a certified copy thereof or by a clear statement of the facts, the ground of the appeal, and the sections of the Regulation relating thereto.

35. On receipt of an appeal, the Inspector shall obtain date for the hearing of the appeal from the President. It is important that there should be no delay in the decision of appeals as the stoppage of a boiler is likely to put the owner thereof to great inconvenience The decision should ordinarily be given within 15 days from the receipt of the petition of appeal.

36. The appellate authority shall for the purpose of appeal have the same powers to summon witnesses and make local investigations as are ~~confined~~ Conferred on a civil court by the code of civil procedure.

37. If on the day fixed or any other day to which the hearing is adjourned the appellant is not present when the appeal is called on hearing, the appeal may be decided in his absence.

38. In appeals before the appellate authority the President shall assess the costs. He shall recover the same from the appellant in any case in which the appeal is dismissed. The appellant shall in all cases of appeal in which a local inspection is required deposit

deposit in advance the full costs of such inspection.

39. An order on appeal authorising the registering of a boiler or the grant or renewal of a certificate shall be deemed to be subject to the payment of such fees as are prescribed by rules framed under the Regulation.

==========

Form A.
Boiler Inspection Department.

Register of Boiler.   Part I

Registry Number.	Type of Boiler.	Boiler Rating.	Name of Manufacturer.	Year and place of construction.	Date of Registration.	Name of Owner.	Plac wher it i in u	Remarks Transfers -- etc.
1	2	3	4	5	6	7	8	9.

Part II.

In part II of the Register Column 1 contains t Registry Numbers and letters.

==========

Form B.

Mysore Boilers Regulation 1924.

Notice for examination of Boiler under S[illegible]

To

....

....

In reply to your application dated .... hereby informed that Boiler Registry No:.....at th named premises will be thoroughly examined or hydr tested by the Government Inspector on.......... To the examination to be made, you are required to (a) all reasonable facilities for such examination and information as may reasonably be required (b)to arrang the boiler is properly pre[illegible]nation in t

.pp.F.VI G1.] B650

SUBJECT

Section DIC
File No. 78 - 24
Serial No. 5

Diary No. of letter replied to

No. DO IC 2977 d 4/11/25

To The Dir, IC

General and Revenue Secretariat
( )
, the 192

Dear Sir,

With reference to your letter no. G.323/C3 dated 8th Oct 1925, forwarding a set of draft rules under the Mysore Boiler Regulation, I am desired to enquire what the draft rules are based on and to request that if they are based on the rules in force in British India, a copy of those rules may be sent for information of Govt, indicating the number of the corresponding rules in the draft sent by you.

Yours sincerely

Date of issue 4.11.25

Signed by Mr V V Chary

List of enclosures

Copied by

Examined by

over

DEPARTMENT OF INDUSTRIES AND COMMERCE.

I&C
75-24
Pt. 6.

D. O. No. G.410.CS
Enc one

GEN. & REV. SECRETARIAT
11 NOV. 1925
INDUSTRIES & COMMERCE BRANCH.
2486

OFFICE OF THE DIRECTOR,
Bangalore, Dated the ~~7th~~ 10 Novr. 1925.

Dear Sir,

With reference to your D. O. letter No. IC.2977 I/& C 78-24-5 dated the 4th Novr. 25 re: the draft rules under the Boiler Regulation, I have to state that the - draft rules submitted by me are based on the rules issued by the Government of Madras under the Madras Steam Boilers and Prime Movers Act III of 1893 which corresponds with the Boiler Regulation now in force in Mysore. A ×copy of the Madras rules is enclosed herein for the information of Government. The number of the corresponding rules in the draft is shown in pencil on the margin of the Madras Rules as desired by you. I may also add for your information that I have already submitted to Government a draft Boiler Regulation and Boiler Rules based on the Indian Boiler Act No. V. of 1923 and the rules issued thereunder(vide enclosures to my letter No. G. 629 CS dated the 12th Jany. 1925).

Yours sincerely,

× The enclosure to be kindly returned when done with

B. Srinivasiengar, Esq., B.A., B.L.
Secretary to Government, Revenue Deptt.

Kdh.

D5152

Department of Industries and Commerce.

Bangalore,

G 837A

INDUSTRIES & COMMERCE 3-APR 1926

Dated the 1st April 1926

3rd

Dear Mr.Vedavyasacharya,

I invite your reference to this office D.O.No:G.410/CS. dated 7-11-1925 re: the draft rules under the Boiler Regulation; copy of the Madras Boiler Rules enclosed therein for the information of Government is required here. I shall be obliged if you will kindly have the same returned to this office at your earliest convenience.

Where is the file? Put up.

Yours sincerely,

8/4

V.Vedavyasacharya,Esq., B.A.,
Assistant Secretary,
General and Revenue Secretariat,
Bangalore.

BV.

The connected file with a draft reply is put up

5/4

Issue

6.4.26

36

G. R. S. G/33]

GENERAL AND REVENUE SECRETARIAT.

(Continuation sheet draft form.)

No. 2 C 6957 d 7/4/1926
Ent.

Dear Mr Ananthasubramanyam,

As desired in your letter No. 9.837/A, of the 3rd instant, I am sending herewith the Madras Boiler Rules. I ~~Shall~~ would request you to kindly return the same as early as you can, as it will be required for reference until the subject is finally disposed of.

Yours sincerely,

5/4

5/4

VS

6/4

APP. F. VI. Gl.]

SUBJECT 7

Diary No. of letter replied to..................

General and Revenue Secretariat
( )
the 192

Date of issue 22-nd Jany 26

Signed by V.V.

List of enclosures........................

Copied by........................

Examined by........................

Section I & C

File No. 78 - 24

Serial No. 7

D. No. 1·C4996

To The Dir. I & C.

Dear Sir,

With reference to your letter No. G. 323. C.S. dated 8th Oct 1925, forwarding a set of draft rules under the Regulation for the inspection and management of Steam Boilers and Prime movers, I am desired to request you to kindly ascertain and report whether the Industrial Engineer and the Supdt of Industries have practical knowledge and experience of boilers and prime movers and if they have the necessary qualifications to be appointed as

over

Inspectors of Boilers and Prime movers' under the Regulation. I am to request that a reply to this communication may be sent *within 2 weeks* from this date;

Yours Sincerely

20/1

20/1

G. R. S. App F. G. 3.

GENERAL AND REVENUE
SECRETARIAT.

(Continuation sheet draft form.)

3V.

DEPARTMENT OF INDUSTRIES AND COMMERCE.

GEN. & REV. SECRETARIAT
10 FEB 1928
INDUSTRIES & COMMERCE
BRANCH.

D4111

D. O. No. 645/C

OFFICE OF THE DIRECTOR,

Bangalore, Dated the 8th. February *192*6.
9

I&C 78-24-8

Dear Sir,

With reference to your D. O. No.4995/I & C 78-24-7, I have the honour to enclose herein a statement showing the qualifications and experience, the Industrial Engineer and the Superintendents of Industries, possess.

Yours Sincerely,

P. G. D'Souza Esq., B. A., B. L.,
Chief Secretary to Government,
Bangalore.

PB—10,000—15-5-27

39

Statement showing Qualifications and experience of the Industrial Engineer & the 3 Superintendents of Industries

------

1. B. G. Appadurai Mudaliar - Industrial Engineer:

B.Sc. in Mechanical Engineering in the Manchester College of Technology. In addition has undergone practical training in the Workshops of Metropolitan Vickers Ltd & has had practical experience in the repairing & handling of Boilers as Superintendent C. I. Workshops.

2. K. T. Kadaba - Superintendent of Industries, Mysore Division. -

L.E.E. of the Victoria Jubilee Technical Institute, Bombay.

Has had experience in the erection & repair of Boilers as Supdt of C.I.Workshops

3. G.S.Girimaji Rao - Superintendent of Industries, Bangalore Division. -

L.E.E., & L.M.E. of Victoria Jubilees Technical Institute, Bombay.

Has had pract cal experience o Boilers while under employ in the Madras Electric Supply Corporation and South Indian In ustrials.

4. C.R.Rama Rao - Superintendent of Industries, Shimoga Division. -

Government Diploma holder Chengalvaroya Naicker's Institute, Madras.

Has had practica experience, was in charge of locomotive Engine in S.I.Ry. and has erected number of boilers in & out of the State.

Offg. Director.

SDN-2)

40

APP. F. VI. Gl.]

SUBJECT..

Diary No. of letter replied to..........

General and Revenue Secretariat
( )
the 192

Date of issue 23/2/26

Signed by M. Vedarangachar

List of enclosures..........

Copied by..........

Examined by..........

Section 9 & C

File No. 78-24

Seria No. 9

No. I.L. 5820 d/ 23/2/1926

To The Dir, I.L.

Sir,

With reference to your letter No. 645/C. dated the 9th inst. forwarding a statement showing the qualifica[tions] of the Industrial Engr and the Supdt of Industries, I am directed to enquire whether any of the Supdts of Industries has got any certificate of having passed the boiler examin[ation].

I have

WO 20/5

Ch. Secy

St 18/2

over

61

G.R.S. III—3]

Routine Notes.

[To be used only for notes, requisitions, etc., not intended for permanent record.]

Telegraphic Address: "INDUSCOM."

In reply please refer to
No. G/855/CS.

41153

GOVERNMENT OF MYSORE
DEPARTMENT OF INDUSTRIES AND COMMERCE.

OFFICE OF THE DIRECTOR,
Dated Bangalore, the 3rd April 1926

GENL. & REV. SECRT.
BR.
6 APR. 1926
G. D. SECTION

GENL. & REV. SECRT. BRANCH

FROM

The Offg. *Director of Industries and Commerce in Mysore,*
Bangalore (India).

25214

I&C 78-24-10

To

The Chief Secretary to the Government of Mysore,
Bangalore.

SIR,

With reference to your letter No. IC. 5820 I & C 78-24-9 dated the 23rd Febry. 1926, I have the honor to state that neither the Industrial Engineer nor any of the Superintendents of Industries possess any certificate for having passed the Boiler Inspector Examination. But all of them possess considerable practical experience in the erection and handling of boilers. I append herein a statement showing the experience each of them possess in the above matter.

I have the honor to be,
Sir,
Your most obedient servant,
Ramachandra Narayana
for Offg. Director,
(Absent from Headquarters on Tour)

N.B.—Should routine notes be written on small slips, the notes must be copied, or slips pasted on this form.

G.R.S. III—3]

Routine Notes.

[To be used only for notes, requisitions, etc., not intended for permanent record.]

N.B.—Should routine notes be written on small slips, the notes must be copied, or slips pasted on this form.

INDUSTRIAL ENGINEER:-	Has gained the Practical experience in Locomotive and other Workshops in Manchester.
SUPERINTENDENT OF INDUSTRIES:- Mysore Division. (Mr Kazaba)	Has undergone a course of training in the following subjects:- 1)Steam, Steam Engines and Boilers. 2)Applied Mechanics. 3)Theory and use of Tools. As he was Electric Engineer student the above subjects have been taken as an equivalent to a Third Class Boiler Certificate.
SUPERINTENDENT OF INDUSTRIES:- Bangalore Division. (Mr Guimaji)	Was in charge of an Electric Power Generating Station with Steam Plant of a capacity of 4000 H.P. for 4 years.
SUPERINTEDENT OF INDUSTRIES:- Shimoga Division. (Mr C.R. Ka Rao	Has worked for 5 years in Boilers and in Workshop where boilers are constructed and repaired.

========

For Offg: Director.

BV-

43 / I&C 78-24-11,

G. R. S. G/33]

GENERAL AND REVENUE
SECRETARIAT.

(*Continuation sheet draft form.*)

Signed by Mr P. G. D'souza.

D. O. I.C. 4243, 4244/29

To

The Director of Industries, Mad
— do — Bom

Dear Sir,

May I request you to kindly let me know what qualifications ~~are~~ have been prescribed for Boiler Inspectors in your Presi and whether such Inspectors h to pass any particular examination to qualify themselves fo appointment? This information is required in connection with framing of rules for the inspection of Steam Boilers and Prime Mo in the State and I shall feel much obliged by your furnishing the information at your earliest Convenience.

Yours Sincerely

Chief Secy
15/4.

14/4

14/4

C.F. 32(a)

In reply please quote number, date and short title.*

Telephone Nos:
3934 & 3935

DEPARTMENT.

Received .... *Registered* ....

28 APR 1926

W

From (Name)
(Designation) The Director of Industries,

Post Box 432, (STATION) Madras.

Telegraphic Address Indeng

25575

To The Mr. P.G.D'Souza, B.A., B.L.,
Chief Secretary to Government,
Bangalore.

9 IC 78-24

No. 231-B/26, *dated* 23rd April 1926. Dis. 5214

Dear Sir,

* Ref:--Your letter No-1-C/7244 dated 19th April 1926 re:--Boilers and Inspectors-qualifications of:--

---

ENCLOSURES ....

SPARE COPIES ....

I have the honour to state that your letter has been forwarded to the Chief Inspector of Boilers and Prime

---

3-MAY 1926
INDUSTRIES & COMMERCE BRANCH.

Telephone
No. 23358

D.O.
No. IC-2/ -12/4 25665
Office of the Director of Industries,
Old Custom House,
Bombay, 27th April 1926.

Dear Sir,

9 IC 78-24.

I beg to acknowledge the receipt of your D.O. letter No. 7243/~~IC~~ 9IC 78-24-11 dated 19th April 1926 enquiring about the qualifications of Boiler Inspectors &c and to say that it has been forwarded to the Collector of Bombay who will deal with it.

Yours Sincerely
F.B. Bharucha

A.K.

To

P.G. DeSouza, Esquire, B.A., B.L.
Chief Secretary to the Govt. of
Mysore, Bangalore.

movers, Chepauk, Madras for disposal.

I have the honour to be,

Dear Sir,

Your most obedient servant,

for Director of Industries.

23/4/-

46583

I&C 78-24-12

C.F. 32 (a)

In reply, please quote number, date and short title.*

Public Works DEPARTMENT.

Received 47 Registered

From (Name) G.L.W.O'Brian Esq., M.I.Mech.E., 25711

(Designation) Chief Inspector of Boilers,

Post Box, (Station) Madras.

Telegraphic Address "Boilers."

Urgent

GENL. & G. D. SECTION
Br. I&C
MAY 1926

INDUSTRIES & COMMERCE
5-MAY 1926

To ~~The~~ Mr. P.G. D'Souza, B.A., B.L.,
Chief Secretary to Government,
Bangalore.

No. 407, dated 4-5-1926.

Sir,

Qualifications of Boiler Inspectors in the Madras Presidency. -- -- --

* * * * * * * *

Enclosures

Spare Copies

With reference to your letter No.I.C.7244/Ic.78-24-11, dated 19-4-26 to the Director of Industries, Madras, forwarded to me for disposal, I have the honour to reproduce below Rules 5 & 11 of the Madras Boiler Inspection Rules 1924 defining - - the qualifications of the Chief and other Boiler Inspectors in this Presidency:--

The

46918

B.I.
No 4580 of 1926.

X5747

From,

E. W. Perry, Esquire, I.C.S.,
Ag. Collector of Bombay, Bombay;

To,

The Chief Secretary to the
Government of Mysore, Banglore.

REV. SECRETARIAT
7-MAY 1926
INDUSTRIES & COMMERCE BRANCH.

GENL. & REV. SECTT.
7 MAY 1926
G. D. SECTION.

Bombay Collector's Office,
Steam Boiler Department,
Old Custom House,
Bombay 5th May 1926.

Subject:- Qualifications for appointments of Boiler Inspectors.

78-24-11

Reference:- Your D.O.letter No. 7243/HC dated 19th April 1926 addressed to the Director of Industries, Bombay.

Sir,

With reference to your D.O.letter of 19th April forwarded to me by the Director of Industries, Bombay, I have the honour to state that no examination has been prescribed by this Government for their Boiler Inspectors. The following qualifications have been prescribed for appointments as Boiler Inspectors' posts:-

(1) **Age.**- From 25 to 35 at the time of appointment.

(2) **Health.**- To pass a Medical Board.

(3) **Physique.**- Should not be over 5' 10" in height and not too stout to enter comfortably the ordinary manhole of a boiler.

(4) **General Education.**- Must have had a good education and able to speak and write good English.

(5) **Technical Training.**- Must either have served apprenticeship of four years as Mechanical Engineer or Engine Fitter in an Engineering workshop where steam engines and boilers are built or repaired, or have completed a full course in an Engineering College or Technical Institution and hold its diploma in Mechanical Engineering.

(6) **Technical Experience.**- ~~Afakx~~ After completing apprenticeship or technical course, must have had three years' further experience as a practical engineer on the design, construction, repair and maintenance or working of steam engines and boilers.

(7) **Certificates.**- Other qualifications being equal, preference will be given to men holding (1) the certificate of competency under the Merchant Shipping Act, or (2) The Bombay Boiler Inspection Act, or (3) Diplomas under the Bombay Boiler Rules. In addition, of course, satisfactory certificates as to personal character will be required.

(8) -

Ꮒ0

(8) Ability. Must satisfy the Collector of Bombay and the Chief Inspector of Steam Boilers that he has the technical knowledge required for the duties of an Inspector, the general education required for writing reports and the manners and demeanour necessary to avoid friction in his duties.

Note:- It may be desirable, in order to ensure that a man apparently otherwise qualified has the requisite knowledge of the work required, for the Collector of Bombay and the Chief Inspector to give him a short practical examination and a written test on the working out of various calculations.

I have the honour to be,

Sir,

Your most obedient servant.

Ag. Collector of Bombay.

SM

48

UBJECT...

Section I&C
File No. 78-24
Serial No. 13.

Diary No. of letter replied to ....

No. I.C 7949

General and Revenue Secretariat
( )
the 192

To

The Dir. I&C

Sir,

With reference to your letter no. G. 855/C.S. dated 5th April 1926, forwarding statement showing the qualifications and the experience which each of the Superintendents of Industries possesses, in connection with the instruction of boilers, I am directed to request that a statement furnishing in greater detail information as regards the technical training and technical experience of each of them together with particulars as regards the age, health ~~and~~ physique of each man

over

Date of issue 20.5.26

Signed by Mr. V.V.

List of enclosures ....

Copied by ....

Examined by ....

be kindly sent fuller information of govt.

15/5

Secy

15/5

55650

69

TELEGRAPHIC ADDRESS: "INDUSCOM"

In reply please refer to
No. 9118/C

GOVERNMENT OF MYSORE.
DEPARTMENT OF INDUSTRIES AND COMMERCE.

OFFICE OF THE DIRECTOR,

Dated Bangalore, the 25th June 1926.
30

GENL. & REV. SECT.
BR. 9
30 JUN. 1926
G. D. SECTION.

FROM

The Offg: *Director of Industries and Commerce in Mysore,*
(Bangalore India).

To

The Chief Secretary to the Government of Mysore,
Bangalore.

26822

GEN. & REV. SECRETARIAT
30 JUN 1926
INDUSTRIES & COMMERCE
BRANCH.

I&C 78-24-14

SIR,

Referring to your letter No: I.C.7949/I&C.78-24-13 dated 20th May 1926, I have the honour to enclose herewith a statement showing the Technical Training and the Technical Experience of each of the Offic of this Department in connection with the Inspection of Boilers.

I have the honour to be,

Sir,

Your most obedient servant,

Offg: Director.

BV.

INSPECTION C

Statement showing the names, qualifications and experience of the several C

Inspection c

No:	Name.	Designation.	Pay.	Age.	F
1.	Mr.B.G.Appadore Mudaliar.	Industrial Engineer.	Rs.490	36	
2.	Mr.K.T.Kadaba.	Superintendent of Industries, Mysore Division.	Rs.380	45	
3.	Mr.G.S.Girimaji Rao.	Superintendent of Industries, Bangalore Division.	Rs. 340.	42	
4.	Mr.C.R.Rama Rao.	Superintendent of Industries, Shimoga Division.	Rs. 255	39	

BOILERS.

ficers of the Department of Industries and Commerce in connection with the

Boilers.

marks as to health etc.	Technical Qualifications & experience.
rong + good health	B.Sc., in Mechanical Engineering in the Manchester College of Technology. In addition has undergone practical Training in the Workshops of Messrs Metropolitan Vickers Ltd., and has had practical experience in the repairing and handling of Boilers as Superintendent, C.I. Workshops. Has gained the Practical experience in Locomotive and other Workshops in Manchester.
rong + Robust	L.E.E., of the Victoria Jubilee Technical Institute, Bombay. Has had experience in the - - erection and repair of Boilers as Superintendent of C.I. Workshop. Has undergone a course of training in the following subjects:- 1) Steam, Steam Engines and Boilers. 2) Applied Mechanics. 3) Theory and use of Tools. As he was an Electric Engineer Student the above subjects have been taken as an equivalent to a Third Class Boiler Certificate.
Strong + Robust	L.E.E., & L.M.E., of the Victoria Jubilee Technical Institute, Bombay. Has had practical experience of Boilers while under employ in the Madras Electric Supply Corporation and South Indian Industrials. Was in charge of an Electric Power Generating Station with Steam Plant of a capacity of 4000 H.P. for 4 years.
Strong + Robust	Government Diploma Holder, Chengalva Naicker's Institute, Madras. Has had practical experience, was in charge of Locomotive Engines in S.I.Ry. and has erected number of boilers in and out of the State. Has worked for 5 years in Boilers and in Workshop where Boilers are constructed and repaired.

Offg:Director.

Reg
27-6

51

I+C 78-24-15

C6822 Steam / 77-26 9-7

GENL. & REV. SECRETARIAT
INDUSTRIES & COMMERCE
BRANCH.
871
6-VII-1926

General and Revenue Secretariat

No. 846. Legis. Bangalore, 5th July 1926.

M E M O.

Eno. 5711 / 6812

Rules have to issue under Sections 1(2), 3(1), 4, 9, 12, 13(5), 15 and 24 of The Steam Boilers Regulation III of 1920

2. I and C. Branch is requested to state if rules or notifications have been issued under the sections referred to, and if so, to kindly put up a copy of the rules, etc. so issued. If the rules are not issued, necessary action may kindly be taken in the matter early, and copies of the same sent to this Branch when issued.

By Order,

C. Abdneghan

For Secretary to Govt.,
Local & Legis. Deptts.

To

The I and C. Branch.

GMR

PP. F. VI. Gl.] 5/10 Issue & Submit

SUBJECT..

5

Section 9 & C
File No. 78-24
Serial No. 16

No. D 2552 Lands

Diary No. of letter replied to.....................

To

~~To~~ The Dr. of Ote

General and Revenue Secretariat
(   )
the   192

Sir

I am directed to forward herewith for favour of remarks x a copy of the note of the Law Dept. on the Rules proposed by you under the Regulation for inspection & management of St. Boilers & Prime Movers of 1920. and to request that a revised set of draft rules may kindly be sent up, if necy. in the l/ of the ~~a~~ remarks referred to.

I h. etc

WP 4/10
for Ch. Secy

Date of issue 8/10/26

x Mr. Abdul Ghani's note on pages 37 to 39.

Signed by..

List of enclosures..

30.9.26

Copied by..

Examined by..

over

APP. F. VI. Gl.]

53

Urgent & Early

UBJECT……………………………………………………

Section IX

File No. 78-24

Serial No.

Diary No. of letter replied to ……………

No. D. 1636 d/ 4/8/27

General and Revenue Secretariat
(   )
the   192

To

The Dir. of IX

Date of issue 4-8-27

Signed by……………

S in linked file

List of enclosures……………

Copied by……………

Examined by……………

Sir

I am directed to invite attention ~~to this~~ office letter no. D.2552/IX 78-24-1 d/ 8th Oct. 1926 callin for a revised set of ~~rules~~ draft rule under the Regn. for the Inspection and Management of Steam Boilers and Prime Movers and to request you to be so good as to submit the revised rules without further delay as the administration of the Regn. cannot with safety to the public be postponed any longer.

over

Jun 21-ck

26.7.27

2/ Ast. Secy.

TELEGRAPHIC ADDRESS :— "INDUSCOM."

In reply please refer to
No. C2-853-27.

84 GOVERNMENT OF MYSORE.
DEPARTMENT OF INDUSTRIES AND COMMERCE.

84

OFFICE OF THE DIRECTOR,

Dated Bangalore, the 20th August *192*7.

FROM

C. RANGANATHA RAO SAHIB, ESQ., B.A., B.L.,
Director of Industries and Commerce in Mysore,
(Bangalore India.)

To

N. RAMA RAO, ESQ., B.A., B.L.,
Secretary to the Government of Mysore,
Development Departments,
Bangalore.

1478

GEN. & REV. SECRETARIAT, DEVELOPMENT BRANCH,

SIR,

With reference to your letter No: D. 1434/I&C. 78-24 dated the 4th August 1927 regarding the submission of a revised set of Draft Rules under the Steam Boilers and Prime Movers Regulation, I have the honour to state that the Rules are under scrutiny and the same will be submitted to Government by the end of this month.

I have the honour to be,

Sir,

Your most obedient servant,

C Ranganatha Rao Sahib
DIRECTOR.

BV.

22 8 27

2d Member)

OFFICE OF THE SECOND MEMBER OF COUNCIL
22 AUG. 1927
No. 1036

23.8.27

23 8 27

GEN. & REV. SECRETARIAT, DEVELOPMENT BRANCH.

GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE

General and Revenue Secretariat

Dated, Bangalore, 2/9/27

No. D.2244 / Elec / Ghc 78-24-17

NOTIFICATION.

The following draft of Rules framed under the Provisions of Section 24 of the Regulation (No. III of 1920) to provide for the inspection and management of steam boilers and prime movers in Mysore, is hereby published for the information of persons likely to be affected thereby and notice is hereby given that the draft will be taken into consideration on or after 15th October 1927, and that any objection or suggestion which may be received from any person with respect to the said draft before the date aforesaid will be considered by Government.

By Order,
29/8
Secretary to Government,
Development Departments.

To
The Compiler, draft in Mysore Gazette.

56

RD [illegible] 9/27

G. R. S. G/33]

GENERAL AND REVENUE
SECRETARIAT.

(*Continuation sheet draft form.*)

Notification

The following draft of Rules framed under the provisions of Section 26 of the Regulation (No. III of 1920) to provide for the ~~Ass~~ inspection and management of Steam-boilers and prime movers in Mysore, ~~are~~ is hereby published for the information of ~~the~~ persons likely to be affected thereby, ~~and public~~. Objections, if any, the rules may be ~~address~~ sent to the ~~chief~~ Secy. to Govt. Devt. Dept. within two months the date of the publication the Gazette.

Notice is hereby given that the draft will be taken into consideration on or after 15th October 1927, and that any objection or suggestion which may be received from any person with respect to the said draft before the date aforesaid will be considered by Govt.

B.O.

MKR
13.8.26

W.A.
14/8/26 to Secy. to
Devt. Dep

To the Compiler M

RD 2245 of 2/9/2

~~for~~ Copy to the D

NOTIFICATION.

No. D. 2244—*I. & C.* 78-24-17, *dated 2nd September* 1927.

The following draft Rules framed under the Provisions of Section 24 of the Regulation (No. III of 1920) to provide for the inspection and management of Steam boilers and Prime Movers in Mysore, are hereby published for the information of persons likely to be affected thereby and notice is hereby given that the draft will be taken into consideration on or after 15th October 1927, and that any objection or suggestion which may be received from any person with respect to the said draft Rules before the date aforesaid, will be considered by Government.

By Order,
N. Rama Rao,
Secretary to Government,
Development Departments.

The Boiler Examination Rules.

A.—Preliminary.

1. These Rules may be called the Boiler Examination Rules.

2. In these Rules—

(*a*) 'The Regulation' means the Mysore Steam Boilers and Prime Movers Regulation III of 1920.

(*b*) 'Section' means a Section of the said Regulation.

(*c*) 'Examination' means the examination of the Boilers under the Regulation and 'Examination Fee' means fee leviable on account of the examination of boilers.

B.—The Inspector.

3. The Inspector shall not undertake any professional work unconnected with his business under the Regulation except with the approval, or under the orders of, Government.

4. All examination fees should be credited to Government.

5. The Inspector shall have an office in which all records connected with the working of the Regulation shall be kept.

6. The Inspector shall keep the following records.—

(*a*) a register of examination fee receipts.

(*b*) a book containing counterfoils of licenses.

(*c*) a register of boilers in the following form which has been prescribed under Section 9:—

Name of owner	Place where boiler is situated	Registry number and description of boiler and age.	Nominal Horse power	When, where and by whom made	When and where last repaired	Date of grant of license	Maximum pressure at which the boiler may be worked	Time for which this license is to be in force	Remarks

(*d*) a book containing a detailed account of every examination made by him.

(*e*) a diary of work done by him from day to day.

(*f*) a register of licenses suspended or revoked under Section 12.

(*g*) a register showing the result of appeals presented under Section 13.

7. No boiler shall be examined under Section 5, unless the notice sent to the Inspector under that Section is accompanied by a Treasury receipt for having credited the fee therein; and the Inspector if he finds that the right fee has not been paid may decline to examine the boiler until it has been paid.

C.—*Examinations.*

8. Examination fees shall be paid in accordance with the following scale:—

		N H P.	Rs.
(*i*)	For the examination of each boiler not exceeding.	10	12
(*ii*)	Do do ...	20	16
(*iii*)	Do do ...	30	24
(*iv*)	Do do ...	50	32
(*v*)	For the examination of each boiler exceeding.	50	40

9. Examinations will not be made on Sundays except in cases of absolute necessity. In such cases the fees may be increased by 25 per cent, the Inspector and his staff being allowed to divide the additional fee amongst them in proportion to their pay.

Iron Boilers.

10. The Inspector is required by the Regulation to fix the pressure to be allowed on boilers. In performing this very responsible and onerous duty he must be very careful, as in the event of accident it will be necessary for him to prove clearly that he used due caution. On the one hand he must be careful as regards safety and on the other hand he must not unduly reduce the pressure on a boiler.

11. The Inspector should fix the working pressure for boilers by a series of calculations of the strength of the various parts and according to the workmanship and material.

In the case of boilers made in India, the Inspector may receive and examine plans and particulars of boilers before the commencement of manufacture with the object of preventing questions arising after the boilers are finished.

When the Inspector has received plans and tracings of new boiler or of alterations of boilers and has approved of them he *will be careful* in making his examination when the boiler is ready for work to see that they have been followed out. When he has not had the plans submitted, but is called in to inspect a boiler, he will of course measure the parts, note the details of construction and if necessary bore the plates to ascertain their thickness, etc., before he gives his certificate.

The Inspector shall not declare a boiler to be safe unless:—

(*a*) he is fully informed as to its construction, material and workmanship or unless (*b*) he is furnished with a certificate from a Chief Engineer of a recognised Boiler Insurance Company. He should therefore be very careful how he ventures to give a certificate.

12. In the case of new boilers, the Inspector may allow a stress not exceeding 7,000 lbs. per square inch of net section on solid iron screwed stays supporting flat surfaces, but the stress should not exceed 5,000 lbs. when the stays have been welded or worked in the fire.

The areas of diagonal stays are found in the following way:—Find the area of a direct stay needed to support the surface, multiply this area by the length of the diagonal stay and divide the product by the length of a line drawn at right angles to the surface supported to the end of the diagonal stay. The quotient will be the area of the diagonal stay required.

When Gusset stays are used, their area should be in excess of that found in the above way.

A stress of 6,000 lbs. may be allowed on the net section of iron stay tubes, providing that the net thickness is in no case less than one-fourth inch. When screwed stays are used and the threads are fine the depth of the nuts should be at least one and a quarter times the diameter of the stay.

13. When the tops of combustion boxes or other parts of boiler are supported by solid rectangular girders, the following formula should be used for finding the working pressure to be allowed on the girders, assuming that they are not subjected to a greater temperature than the ordinary heat of steam and in the case of combustion chambers that the ends are fitted to the edges of the tube plate and the back plate of the combustion box.

$$\frac{C\times d^2\times T}{(W-P)\ D\times L} = \text{Working pressure.}$$

W=Width of combustion box in inches.
P=Pitch of supporting bolts in inches.
D=Distance between the girders from centre to centre in inches.
L=Length of girder in feet.
D=Depth of girder in inches.
T=Thickness of girder in inches.
N=Number of supporting bolts.

$$C = \frac{N\times 1000}{N \text{ plus } 1} \text{ when the number of bolts is odd.}$$

$$C = \frac{(N \text{ plus } 1)\ 1000}{N \text{ plus } 2} \text{ when the number of bolts is even.}$$

The working pressure for the supporting bolts and for the plate between them should be determined by the rule for ordinary stays.

14. The pressure on plates forming flat surfaces is found by the following formula:—

$$\frac{C\times(T \text{ plus } 1)^2}{S-6} = \text{Working pressure.}$$

T=Thickness of the plate in sixteenths of an inch.
S=Surface supported in square inches.
C=Constant according to the following circumstances:—

C=100 when the plates are not exposed to the impact of heat or flame and the stays are fitted with nuts and washers, the latter being at least three times the diameter of the stay and two-thirds the thickness of the plates they cover.

Note.—If the diameter of riveted washers be at least two-thirds the pitch of the stays and the thickness not less than the plates they cover the constant may be increased to 150. When doubling plates are fitted of the same thickness as the plates they cover and not less in width than two-thirds the pitch of the stays, the constant may be increased to 160.

C=90 when the plates are not exposed to the impact of heat or flame and the stays are fitted with nuts only.

C=60 when the plates are exposed to the impact of heat or flame and steam in contact with the plates and the stays fitted with nuts and washers, the latter being at least three times the diameter of the stay and two-thirds the thickness of plates they cover.

C=54 when the plates are exposed to the impact of heat or flame and steam in contact with the plates and the stays fitted with the nuts only.

C=80 when the plates are exposed to the impact of heat or flame with water in contact with the plates and the stays screwed into the plates and fitted with nuts.

C=60 when the plates are exposed to the impact or heat or flame with water in contact with the plates and the stays screwed into the plates, having the ends riveted over to form substantial heads.

C=36 when the plates are exposed to the impact of heat or flame and steam in contact with the plates, with the stays

screwed into the plates and having the ends riveted over to form substantial heads.

C=67½ when the plates are not exposed to the impact of heat or flame and the stays are screwed into the plates and riveted over.

In cases where plates are stiffened by T or L irons and a greater pressure is required for the plates than is allowed by the use of the above constants, the case should be submitted for the consideration of Government.

When the riveted ends of screwed stays are much worn or when the nuts are burned, the constants should be reduced, but the Inspector must act according to the circumstances that present themselves at the time of inspection and it is expected that in cases where the riveted ends of screwed stays in the combustion boxes and furnaces are found in this state it will be often necessary to reduce the constant 60 to about 36.

The Inspector should not in any case allow a greater compressive stress on the edge of the tube plates than 7,500 lbs. per square inch, which is that used in the following formula:—

$$\frac{(D-d)\ T\times 15{,}000}{W\times D} = \text{Working pressure.}$$

D=Least horizontal distance between centres of tube in inches.

d=Inside diameter of ordinary tubes in inches.

T=Thickness of tube plate in inches.

W=Extreme width of combustion box in inches from front of tube plate to back of fire box or distance between combustion box tube plates when boiler is double ended and the box common to the furnaces at both ends.

18, The Inspector should take care that boilers, the outside of which cannot be seen, are cleared of all covering and fittings for inspection whenever the Inspector considers it necessary. It will often be found necessary to reduce the pressure, unless the boilers are partially cleared from their seats to enable the Inspector to judge of their condition. If the owners in any special case have any good reasons for not wishing to clear them when the Inspector requires it, the Inspector should submit the whole case in detail to Government for their consideration. The Inspector must recollect that he is not to certify as sufficient any boiler respecting which he cannot thoroughly satisfy himself.

The Inspector should record in his Inspection book the dates on which the boilers are inspected, when and to what extent cleared from brick work, and whether the boilers were set or not when examined and if not set where they were examined. Boilers which have been cleared should in all cases be subjected to the Hydraulic test before the brick work is rebuilt.

16. Boilers well constructed, well designed and made of good material should have advantage in the matter of working pressure over boilers inferior in any of the above respects as unless this is done the superior boiler is placed at a disadvantage and good workmanship and material will be discouraged. The following rules are therefore prescribed:—

When cylindrical boilers are made of the best material with all the rivet holes drilled in place and all the seams fitted with double butt straps each of at least five-eighths the thickness of the plates they cover and all the seams at least double riveted with rivets having an allowance of not more than 75 per cent. over the single shear and provided that the boilers have been open to inspection during the whole period of construction, then five may be used as the factor of safety. The tensile strength of the iron is to be taken as equal to 47,000 lbs. per square inch with the grain and 40,000 lbs. across the grain. But when the above conditions are not complied with, the additions in the following scale must be added to the factor 5, according to the circumstances of each case:—

A. ·15 to be added when all the holes are fair and good in the longitudinal seams but drilled out of place after bending.

B. ·3 to be added when all the holes are fair and good in the longitudinal seams but drilled out of place before bending.

C. ·3 to be added when all the holes are fair and good in the longitudinal seams but punched after bending instead of drilled.

D. ·5 to be added when all the holes are fair and good in the longitudinal seams but punched before bending.

E. ·75 to be added when all the holes are not fair and good in the longitudinal seams.

F. ·1 to be added if the holes are all fair and good in the circumferential seams, but drilled out of place after bending.

G. ·15 to be added if the holes are fair and good in the circumferential seams but drilled before bending.

H. ·15 to be added if the holes are fair and good in the circumferential seams but punched after bending.

I. ·2 to be added if the holes are fair and good in the circumferential seams but punched before bending.

J. ·2 to be added if the holes are not fair and good in the circumferential seams.

K. ·2 to be added if double butt straps are not fitted to the longitudinal seams and the said seams are lap and double riveted.

L. ·1 to be added if double butt straps are not fitted to the longitudinal seams and the said seams are lap and treble riveted.

M. ·3 to be added if only single butt straps are fitted to the longitudinal seams and the said seams are double riveted.

Note:—*For*

A. B. G. & I. When the holes are to be rimered or bored out in place the case should be submitted to Government as to the reduction or omission of A. B. G. and I, as heretofore.

Note:—If iron be tested and the elongation measured in a length of 10 inches is not less than 14 per cent with and 8 per cent across the grain, and the Inspector is otherwise satisfied as to the quality of the plates and rivets then 4·5 may be used instead of 5 in which case the minimum actual tensile strength of the plates shall be used in calculating the working pressure.

E. & J. The factor of safety should be increased still further if the workmanship or material is very doubtful or is very unsatisfactory.

N. ·15 to be added if only single butt straps are fitted to the longitudinal seams and the said seams are treble riveted.

O. 1·0 to be added when any description of joint in the longitudinal seams is single riveted.

P. ·1 to be added if the circumferential seams are fitted with single butt straps and are double riveted.

Q. ·2 to be added if the circumferential seams are fitted with single butt straps and are single riveted.

R. ·1 to be added if the circumferential seams are fitted with double butt straps and are single riveted.

S. ·1 to be added if the circumferential seams are lap joints and are double riveted.

T. ·2 to be added if the circumferential seams are lap joints and are single riveted.

U. ·25 to be added when the circumferential seams are lap joints and the strokes of plates are not entirely under or over.

V. ·3 to be added when the boiler is of such a length as to fire from both ends, or is of unusual length as in the case of flue boilers; and the circumferential seams fitted as described opposite P, R and S but of course when the circumferential seams are as described opposite Q, T, V ·3 will become ·4.

Note for V.—When boilers are comparatively short, the cases should be submitted to Government for consideration as to the omission of V as heretofore.

W. ·4 to be added if the seams are not properly crossed.

Welded seams in shells of receivers, or domes of iron boilers shall be considered as having a strength not exceeding 70 per cent of the solid plate.

X. ·4 to be added when the iron is in any way doubtful and the Inspector is not satisfied that it is of the best quality.

Note for W & X. *Vide* explanation in the note for V page).

Y. 1·65 to be added if no certificate is produced from a Chief Engineer of a recognised Boiler Insurance Company or if the boiler was not open to inspection during the whole period of its construction by the Inspectors of any recognised Boiler Insurance Company.

Note for Y. The recognition of a certificate under this rule is limited to new boilers when first licensed and to boilers not more than 10 years old provided they have not shown any defect during that period; should the plates of a boiler have become fitted or unduly sealed when exposed to the impact of flame or should the material have become deteriorated or should the boiler be one which was not subject to periodical inspection or cannot be efficiently examined internally, it will be in the discretion of the Inspector to increase the factor of safety as above.

When the circumferential seems are double strapped and double riveted and the calculated strength not less than 65 per cent of the solid plate V, ·3 may be omitted as heretofore.

The strength of the ordinary joints is found by the following method:—

$$\frac{(\text{Pitch}-\text{Diameter of rivet}) \times 100}{\text{Pitch}} = \text{Percentage of strength of plate at joint as compared with the solid plate.}$$

For the maximum pitch of rivets, see Appendix.

$$\frac{(\text{Area of rivet} \times \text{No : of rows of rivets}) \times 100}{\text{Pitch} \times \text{thickness of plate}} = \text{Percentage of strength rivets as compared with the solid plate.}$$

(*Note.* If the rivets are exposed to double shear multiply the percentage as found by 1·75).

Then take iron as equal to 47,000 lbs. per square inch and use the smaller of the two percentages as the strength of the joint and adopt the factor of safety as found from the preceding scale.

$$\frac{(47000 \times \text{percentage of strength of joint.} \times \text{twice the thickness of the plate in inches.}}{\text{Inside diameter of the boiler in inches} \times \text{factor of safety.}} =$$

Pressure to be allowed per square inch on the safety valves.

In the case of ordinary zigzag riveting, the strength through the plate diagonally between the rivets, where diagonal pitch = 6/10 horizontal pitch plus 4/10 diameter of rivet. Plates that are drilled in place must have been taken apart and the burr taken off and the holes slightly countersunk from the outside.

Butt straps must have been cut from plates and not from bars and must be of as good quality as the shell plates and for the longitudinal seams must be cut across the fibre. The rivet holes may have been punched or drilled out of place, but when drilled in place must have been taken apart and the burr taken off and slighty countersunk from the outside.

When single butt straps are used and the rivet holes in them punched they must be one-eighth thicker than the plates they cover.

The diameter of the rivets must not be less than the thickness of the plates of which the shell is made but it will be found when the plates are thin or when lap joints or single butt straps are adopted, that the diameter of the rivets should be in excess of the thickness of the plates.

Dished ends must be stayed as flat surfaces; but when they are theoretically equal to the pressure needed, when considered as portions of spheres, the stays when solid, may have a stress of 14,000 lbs. per square inch of net section, but the stress should not exceed 10,000 lbs. when the stays have been welded or worked in the fire.

Truly hemispherical ends subjected to internal pressure may be allowed double the pressure that is suitable for a cylinder of the same diameter and thickness.

All manholes and openings must be stiffened with compensating rings of at least the same effective sectional area as the plates cut out, and in no case should the plate rings be less in thickness than the plates to which they are attached. The openings in the shells of cylindrical boilers should have their shorter axes placed longitudinally. It is very desirable that the compensating rings, round openings in flat surfaces be made of L or T iron. Cast iron doors are not to be passed.

The neutral part of boiler shells under steam domes must be efficiently stiffened and stayed, as serious accidents have arisen from the want of such precautions.

17. New boilers are to be tested by hydraulic pressure according to the following scale:—

Boilers intended to work up to 100 lbs. pressure per square inch or any pressure below that are to be tested to double the working pressure.

Above lbs.	100	up to lbs.	125	to be tested	to lbs.	200
Do	125	do	150	do		230
Do	150	do	175	do		250
Do	175	do	200	do		270
Do	200	do	225	do		290
Do	225	do	250	do		310
Do	250	do	275	do		330
Do	275	do	300	do		350

Any boiler intended for working pressure above these to be tested to not less than 50 lbs. above such working pressure.

In the case of old boilers the Inspector must use his own judgement as to the necessary pressure to be applied.

18. Circular furnaces with the longitudinal joints welded or made with a butt strap double riveted or double butt straps single riveted:

$$\frac{90{,}000 \times \text{the square of the thickness of the plate in inches}}{(\text{Length in feet plus } 1) \times \text{diameter in inches}} =$$

Working pressure per square inch, provided it does not exceed that found by the following formula.

$$\frac{9{,}000 \times \text{thickness in inches}}{\text{diameter in inches}} = \text{Working pressure per square inch.}$$

The second formula limits the crushing stress on the material to 4,500 lbs. per square inch.

The length is to be measured between the rings if the furnace is made with rings.

If the longitudinal joints instead of being butted are lap-jointed in the ordinary way, then 75,000 is to be used instead of 90,000 excepting only where the lap is bevelled and so made as to give the flues the form of a true circle, when 80,000 may be used.

When the material or the workmanship is not of the best quality, the constants given above must be reduced, that is to say the 90000 will become 80000, the 80000 will become 70000, the 70000 will become 60000; when neither the workmanship nor the material is of the best quality, such constants will require to be further reduced according to circumstances and the judgment of the Inspector as in the case of old boilers. One of the conditions of best workmanship is that the joints are double riveted with double butt straps or single riveted with double butt straps and the holes drilled after the bending is done and when in place and the plates afterwards taken apart, the burr on the wholes taken off and the holes slightly countersunk from the outside.

Note.—The following examples will serve to show the application of the constants of the different cases that may arise:—

Furnace with butt joints and drilled rivet holes—

90,000 where the longitudinal seams are welded.

90,000 where the longitudinal seams are double riveted and fitted with single butt straps.

80,000 where the longitudinal seams are single riveted and fitted with single butt straps.

90,000 where the longitudinal seams are single riveted and fitted with double butt straps.

Furnaces with butt joints and punched rivet holes—

85,000 where the longitudinal seams are double riveted and fitted with single butt straps.

75,000 where the longitudinal seams are single riveted and fitted with single butt straps.

85,000 where the longitudinal seams are single riveted and double fitted with butt straps.

Furnaces with lapped joints and drilled rivet holes—

80,000 where the longitudinal seams are double riveted and bevelled.

70,000 where the longitudinal seams are double riveted and bevelled.

70,000 where the longitudinal seams are single and bevelled.

65,000 where the longitudinal seams are single and not bevelled.

Furnaces with lapped joints and punched rivet holes—

75,000 where the longitudinal seams are double riveted and bevelled.

70,000 where the longitudinal seams are double riveted and not bevelled.

65,000 where the longitudinal seams are single riveted and bevelled.

60,000 where the longitudinal seams are single riveted and not bevelled.

In the case of upright fire boxes of donkey or similar boilers 10 per cent should be deducted from the constants given above, applicable to the respective classes of work.

The working pressure for corrugated furnaces, practically circular and machine made, provided the plane parts at the end do not exceed 6 inches in length and the plates are not less than 5/16 of an inch thick, should not be greater than found by the following formula :—

$$\frac{9{,}000 \times \text{thickness in inches}}{\text{mean diameter in inches}} = \text{Working pressure per square inch.}$$

The strength of the joints of cylindrical superheaters and the factor of safety are found in a similar manner as for cylindrical boilers and steam receivers, but instead of using 47,000 lbs. as the tensile strength of iron, 30,000 lbs. is adopted unless where the heat or flame impinges at or nearly at right angles to the plate, then 22,400 lbs. is substituted.

Where a superheater is constructed with a tube subject to external pressure, the working pressure should be ascertained by the rules given for circular furnaces, but the constants should be reduced as 30 to 47.

In all cases the internal steam-pipes should be so fitted that the steam in flowing to them will pass over all the plates which have steam in contact with them and are exposed to the impact of the heat or flame. Superheaters should as regards survey be deemed to be the most important part of the boilers and must be inspected inside and outside; those that cannot be entered on account of their size or arrangement must have a sufficient number of doors through which a thorough inspection of the whole of the interior can be made. Special attention should be paid to the survey of superheaters as with high pressures the plates may become dangerously weak and not give any sound to indicate their state when tested with a hammer; the plates should therefore be occasionally drilled. Drilling of furnace and the lower parts of combustion box plates, shell plates, etc., should of course be done when considered necessary in order to ascertain their actual thickness. If flaming is found to be of frequent occurrence in any boiler, extra care must be taken in the survey and in fixing the pressure as to be allowed as the tensible strength of plate when heated is ofen reduced to about 4 tons per square inch. Drain pipes must in all cases be fitted to superheaters in which a collection of water in the bottom is possible. Superheaters that can be shut off from the main boilers should be fitted with a parliamentary safety-valve of sufficient size, but the

least size passed without special sanction of Government should be 3 inches in diameter.

The flat ends, etc., of all boilers, as far as the steam space extends and the ends of superheaters should be fitted with shield or baffle plates where exposed to hot gases in the uptake.

As the uptakes of haystack boilers and others of similar type are especially liable to injury from overheating, unless careful precautions are taken while steam is being raised, the Inspector must in all cases persuade makers and owners of such boilers to make the strength of the uptakes considerably in excess of that required for ordinary superheaters subject to external pressures.

The employment of Bowling rings is beneficial by adding to the strength as well as allowing for expansion, but if there is a difficulty in getting these fitted, hoops riveted round although not so desirable as Bowling rings can be employed to increase the resistance of the tubes against collapse. The use of the Bowling rings with a moderate thickness of plate is better than very thick plating. This applies to the uptakes of all boilers of this type including ordinary vertical donkey boilers, Bowling rings fitted to all such uptakes would be a decided advantage in allowing for expansion.

STEEL BOILERS.

19. For steel boilers, the rules for iron boilers may be *varied* as follows:—

The constants for flat surfaces when they are supported by stays screwed into the plate and riveted 10 per cent. The constants for flat surfaces when they are supported by stays screwed into the plate and nutted, or when the stays are nutted in the steam space, 25 per cent. This is also applicable to the constants for flat suraces stiffened by riveted washers or doubling strips and supported by nutted stays.

The constants for combustion box girders, 10 per cent.

The constants for plain surfaces, 10 per cent.

In cases where the Inspector is satisfied from tests made on the steel from which the boiler has been constructed that it is of a certain tensile strength per square inch, that strength may be substituted for the 47,000 lbs. (allowed for iron plates) in the formula given in Rule 16 but in no case is a greater strength than 32 tons (71,680 lbs.) to be allowed. In other cases, provided there is sufficient proof that the boiler is of steel, a minimum of 26 tons may be used.

Solid steel screwed stays which have not been welded or otherwise worked after heating may be allowed a working stress of 9,000 lbs. per square inch of net section. Steel stays which have been welded or worked in the fire have been found to be unreliable; therefore they should not be passed.

20. When furnaces are machine made by the Leeds Forge Company of the Fox corrugated and Morrison suspension types or by Messrs. John Brown & Co., Sheffield of the Purves ribbed and grooved type, if they are practically true circles and the plates not less than 5/16 of an inch thick, the working pressure is found by the following formula:—

$$\frac{C \times T}{D} = \text{Working pressure}$$

C = 14000 for Fox's corrugated and Brown's ribbed and grooved furnaces.

C = 13,500 for Morrison's suspension furnace.

T = Thickness in inches.

D = Outside Diameter in inches, measured at the bottom of the corrugations where the furnace is of the corrugated or suspension type, or over the plain parts when it is of the ribbed and grooved description.

In Fox's corrugated furnaces, the pitch of the corrugations and the length of the plain parts at the ends should not exceed 6 inches, and in Morrisons's suspension furnaces the pitch should not exceed 8 inches and the length at the ends 5 inches.

In both descriptions of furnaces, the depth from top of corrugations outside to bottom of corrugations inside should not be less than 2 inches, the plates at the ends should not be unduly thinned in the flanging.

The plates of ribbed and grooved furnaces should be formed by rolling, the ribs should not be less than 15/16 inches above the plain parts and the depth of the grooves not more than ¾ inch, the length between the centres of the ribs not over 9 inches, and that of the plain parts at the ends not over 6 inches and the ends rolled slightly thicker than the plain parts and not reduced at any part by flanging, etc., below the thickness of the body of the furnace.

If the furnace is riveted in one or more lengths the case should be submitted for the consideration of Government.

21. When horizontal furnaces of ordinary diameter are constructed of a series of rings welded longitudinally and the ends of each ring flanged and the rings riveted together, and so forming the furnace the working pressure is found by the following formula provided the length in inches between the centres of the flanges of the rings is not greater than (120 T-12) and the flanging is performed at one heat by a suitable flanging machine and also the conditions which follow the formula are complied with :—

$$\frac{9{,}900 \times T}{3 \times D} \left(5 - \frac{L \text{ plus } 12}{60 \times T}\right) = \text{working pressure.}$$

T=Thickness of plate in inches.
L=length betwern centre of flanges in inches.
D=Outside diameter of furnace in inches.

The radii of the flanges on the fire side should be about 1½ inches. The depth of the flanges from the fire side should be three times the diameter of the rivet plus 1½ inches, and the thickness of the flanges should be as near the thickness of the body of the plate as practicable. The distance from the edge of the rivet holes to the edge of the flange should not be less than the diameter of the rivet and the diameter of the rivets at least 3/8 of an inch greater than the thickness of the plate. The depth of the ring between the flanges should not be less than three times the diameter of the rivets and the fire edge of the ring should be about the termination of the curve of flange; and the thickness not less than half the thickness of the furnace plate. Turned rings are such as may be considered a first class method of construction.

The holes in the flanges and rings should be drilled in place if practicable, but if not drilled in place, they should be drilled sufficiently small, and afterwards when in place rimered out until the holes are quite fair, the holes should be slightly tapered and the heads of the rivets of moderate size.

After all the welding, flanging and heating is completed each ring should be efficiently annealed in one operation.

22. A greater compressive stress should not be allowed on tube plates than 10,000 lbs. which is tha tused in the following formula.—

$$\frac{(D - d)\ T \times 20{,}000}{W \times D.} = \text{Working pressure}$$

D = Least horizontal distance between centres of tubes in inches.
d = Inside diameter of ordinary tubes in inches.
T = Thickness of tube plate in inches.
W = Extreme width of combustion box in inches from front of tube plate to back of fire box or distance between combustion box tube plates when boiler is double ended and the box common to the furnaces at both ends.

23. When full allowance is wished, the rivet section, of iron, in the longitudinal seams of cylindrical shells should, when those seams are lapped, be at least 13/8 times the

net plate section, and if steel rivets are used, their section should be at least 28/23 of the net section of the plate, if the tensile stress of the rivets is not less than 26 tons and not more than 32 tons per square inch. In calculating the working pressure the percentage strength of the rivets may be found in the usual way by the Rules, but in the case of iron rivets, the percentages found should be divided by 13/8 and in the case of steel rivets by 28/23, the results being the percentages required. If the percentage strength of the rivets by calculation is less than the calculated percentage strength of the plate, calculate the working pressure by both percentages, when using the percentage strength of the plate 4·5 plus the additions suitable for the method of construction as per Rule 16 for iron boilers, may be used as the nominal factor of safety, but when using the percentage strength of the rivets 4·5 may be used as the factor of safety. The less of the two pressures so found is the working pressure to be allowed for the cylindrical portion of the shell. See formula in Appendix.

BOILERS—GENERAL.

24. Small boilers must be surveyed and be fitted the same way as the main boilers and have a water and steam guage, and all other fittings complete and as regards safety-valves must comply with the same regulations as the main boilers.

25. No boiler or steam chamber is to be so constructed, fitted or arranged that the escape of steam from it through the safety-valve can be wholly or partially intercepted by the action of any other valve.

A stop-valve must always be fitted between the boiler and the steam-pipe, and where two or more boilers are connected with a steam receiver or superheater, between each boiler and the superheater or steam receiver, the object of this is obvious, *viz.*, to avoid the failure of all the boilers through the failure of one. The neck of stop-valves should be as short as practicable.

26. Each boiler must be fitted with a glass water-guage, at least two test cocks or two glass water guages and steam guage, that is to say, each boiler must be fitted with all fittings as complete as if there were only one boiler. When a factory has more than one boiler and these boilers are fitted with stop-valves, each boiler must be treated as a separate one and have all the requisite fittings.

27. On every inspection of a steam boiler, the Inspector, should if the boiler is large enough, go inside it and make a thorough examination of it.

When the boilers are not large enough for the Inspector to get into, he should see them tested by hydraulic pressure at every annual inspection at least. The hydraulic test should also be applied at every inspection if the Inspector considers it necessary.

Whenever it is only removable stays that prevent getting in, he must order their removal and he must see them properly replaced before granting his declaration.

If any part of a main boiler near the uptake fire boxes or furnaces is so constructed that the Inspector cannot examine it, he is not to give a declaration, but shall report the case to Government.

If for special reasons and for special reasons only the Inspector cannot go inside a small boiler, he must distinctly state on the face of his declaration his reasons for not being able to do so.

28. If the boiler is too hot for the Inspector to examine the inside efficiently, and with safety and convenience, he should decline to examine the boiler, and absolutely refuse to grant a certificate until he can make an efficient internal examination.

28. Before testing a boiler the Inspector shall examine it, take the necessary measurements and calculate what the

working pressure should be in accordance with the regulations, and only test it with reference to that pressure in accordance with Rule 17. If the test is not satisfactory, the pressure must be proportionately reduced.

This course will enable any necessary alterations to be made by the owners and prevent delay or disappointment. The Inspector who grants the certificate should not increase the working pressure without consulting Government.

The Inspector who grants the certificate must examine the boilers thoroughly and in the absence of special instructions from Government will be held responsible for the pressure allowed.

29. The Inspector shall see all new boilers and boilers that have been cleaned for a thorough repair, tested by hydraulic, in accordance with Rule 17 previous to the boilers being set and before they are covered in to test the workmanship, etc., but the working pressure is to be determined by the strength of stays, thickness of plates and strength of rivetting, etc., and not by the hydraulic test.

The hydraulic test should in no case exceed twice the calculated working pressure of the boiler and it is never to be applied until the boiler has been examined and until the strength has been calculated from the necessary measurements taken from the boiler itself.

When the boilers are set the Inspector may, at any time he thinks it necessary, before he gives a certificate, have them tested by hydraulic pressure to satisfy himself as to any doubtful part or of places not easy of access, care being taken in the case of old boilers not to overstrain them, but the test must always exceed the working pressure.

The hydraulic test should before a certificate is granted be applied to all boilers that have not previously had a working certificate.

When a boiler is partially inspected by one Inspector, and the inspection is completed and a certificate granted by another, if the Inspector who witnesses the test of the boiler by hydraulic pressure has an opportunity of examining it inside and outside after the test, such Inspector should determine the pressure to be allowed on the boiler in question, taking care to inform the makers, owners or agents and the Inspector who is ultimately to grant a certificate, what pressure should in his opinion be allowed on it. In the event of the original Inspector having no opportunity to examine the boiler inside and out after the hydraulic test, the Inspector must retest the boiler by water and examine the boiler inside and out before determining the working pressure and granting a certificate.

The amount of the hydraulic pressure test and the date on which it was last applied to the boiler, should be inserted in the Inspector's certificate and recorded in the dimension sheet of that boiler.

Inspectors should pay particular attention to the examination and testing of steam pipes and economisers.

The working pressure of well made copper pipes when the joints are brazed is found by the following formula:—

$$\frac{6000 \times (T - \frac{1}{16})}{D} = \text{Working pressure.}$$

T = Thickness in inches.
D = Inside diameter in inches.

When the pipes are solid drawn and not over 8 inches diameter substitute in the foregoing formula $^1/_{32}$ for $^1/_{16}$.

The internal pressure on wrought iron pipes made of good material and lap welded, may be determined by the following formula provided that the thickness is not less than ¼ inch and the workmanship by hydraulic test, etc., safisfactory:—

$$\frac{6000 \times T}{D} = \text{Working pressure.}$$

T = Thickness in inches.
D = Inside diameter in inches.

Feed pipes should be made sufficient for a pressure 20 per cent in excess of boiler pressure.

In all cases in which a socket expansion joint is fitted to a bent steam pipe, the Inspector should require a fixed gland and bolts to be fitted, in order to prevent the end of the pipe being forced out of the socket. This regulation should be complied with in all cases of bent pipes fitted with socket expansion joints. Fixed glands and bolts should be fitted to the expansion joints of straight steam pipes, as cases have occurred, particularly with small straight pipes, in which the ends of the pipes have been forced out of the sockets.

31. In all boilers in which the Inspector finds that cast iron is employed in such a manner as to be subject to the pressure of steam or water, he shall report the circumstances to Government in order that he may obtain instructions how to act. Cast iron must not be used for stays and the Inspector should discourage the use of cast iron saddles for boilers.

32. A pressure once allowed on a boiler is not under any circumstances whatever to be increased unless the Inspector has previously written for and obtained the sanction of Government.

In case the Inspector is of opinion that an increased pressure may with safety be allowed, he shall communicate with the Inspector who last inspected the boiler, and if on learning the reasons why the existing pressure was formerly allowed, the Inspector is still of opinion that it may be increased, he should communicate all the facts to Government, but as above stated, the pressure shall not in any case be increased until the question has been decided by him.

33. The Inspector is instructed that in all *new boilers* and whenever alterations can be easily made, the safety-valve and stop-valve should be placed directly on the boiler, and the neck or part between the valve and the flange which is bolted on to the boiler, should be as short as possible.

The Inspector should note that it is not intended by this instruction that old boilers which have been previously passed with such an arrangement should be thrown out of work for the alterations to be carried out.

Of course in any case in which the Inspector is of opinion that it is positively dangerous to have a length of pipe between the boilers and the safety-valve, it is his duty to insist at once on the requisite alterations being made before granting a declaration.

The Inspector shall declare, amongst other things, the limits of the weight to be placed on the safety-valves and that the safety-valves are such and in such condition as the circumstances of the case demand.

34. The area of safety-valves per squre foot of fire-grate surface or (when there is more than one safety-valve on the boiler) the combined area of the safety-valves should be not less than that given in the following table opposite the boiler pressure intended, provided the valves are not less than two inches in diameter. This applies to new boilers which have not received a working certificate.

In ascertaining the fire grate area, the length of the grate should be measured from the inner edge of the dead plate to the front of the bridge, and the width from side to side of the furnace on the top of the bars at the middle of their length.

If there is only one safety-valve on a main boiler the Inspector should not grant a certificate without first referring the case to Government for special instructions.

In the case of small boilers, if it is wished to fit valves smaller than two inches diameter, the case should be submitted for the consideration of Government.

Boiler Pressure	Area of value per sq. foot of fire grate	Boiler Pressure	Area of valve per sq. foot of fire grate
lb.	Sq. inch	lb.	Sq. inch
15	1·250	108	·304
16	1·209	109	·302
17	1·171	110	·300
18	1 136	111	·297
19	1·102	112	·295
20	1·071	113	·292
21	1·041	114	·290
22	1·013	115	·288
23	·986	116	·286
24	·961	117	·284
25	·937	118	·281
26	·914	119	·279
27	·892	120	·277
28	·872	121	·275
29	·852	122	·273
30	·833	123	·271
31	·815	124	·269
32	·797	125	·267
33	·781	126	·265
34	·765	127	·264
35	·750	128	·262
36	·735	129	·260
37	·721	130	258
38	·707	131	·256
39	·694	132	·255
40	·681	133	·253
41	·669	134	·251
42	·657	135	·250
43	·646	136	·248
44	·635	137	·246
45	·625	138	·245
46	·614	139	·243
47	·604	140	·241
48	·595	141	·240
49	·585	142	·238
50	·576	143	·237
51	·568	144	·235
52	·559	145	·234
53	·551	146	·232
54	·543	147	·231
55	·535	148	·230
56	·528	149	·228
57	·520	150	·227
58	·513	151	·225
59	·506	152	·224
60	·500	153	·223
61	·493	154	·221
62	·487	155	·220
63	·480	156	·219
64	·474	157	·218
65	·468	158	·216
66	·462	159	·215
67	·457	160	·214
68	·451	161	·213
69	·446	162	·211
70	·441	163	·210
71	·436	164	·209
72	·431	165	208
73	·426	166	·207
74	·421	167	·206
75	·416	168	·204
76	·412	169	·203
77	·407	170	·202
78	·403	171	·201
79	·398	172	·200
80	·394	173	·199
81	·390	174	·198
82	·386	175	·197
83	·382	176	·196
84	·378	177	·195
85	·375	178	·194
86	·371	179	·193
87	·367	180	·192
88	·364	181	·191
89	·360	182	·190
90	·357	183	·189
91	·353	184	·188
92	·350	185	·187
93	·347	186	·186
94	·344	187	·185
95	·340	188	·184
96	·337	189	·183
97	·334	190	·182
98	331	191	·181
99	·328	192	·181
100	·326	193	·180
101	·323	194	·179
102	·320	195	·178
193	·317	196	·177
104	·315	197	·176
105	·312	198	·176
106	·309	199	·175
107	·307	200	·174

35. The Inspector in his examination of boilers and appurtenances is particularly to direct his attention to the safety.valves and whenever he considers it necessary he is to satisfy himself as to the pressure on the boiler by actual trial.

The Inspector is to fix the limits of the weight to be placed on safety-valves and the responsibility of issuing a certificate before he is fully satisfied on the point is very grave. The Inspector is to examine the whole of the valves, weights and springs at every inspection.

The responsibility of seeing to the efficiency of the mode by which the valves are fitted so as to be as much as practicable under the control of the Engineer when the steam is up, rests with the Inspector.

The safety-valve should be fitted with lifting gear, which should in all cases be arranged so that it can be worked by hand. Care should be taken that the safety-valves have a lift equal to at least one-fourth of their diameter, that openings for the passage of steam to and from the valves, including the waste steam-pipe, should each have an area not less than the area of valves required and that each valve box has a drain pipe fitted at its lower part. In the case of lever valves, if the lever is not bushed with brass, the pins must be of brass, iron and iron working together must not be passed. Too much care cannot be devoted to seeing that there is proper lift, and free means of escape of waste steam, as it is obvious that unless the lift and means for escape of waste steam are ample, the effect is the same as reducing the area of the valve or putting on an extra load. The valve seats should be secured by studs and nuts.

The Inspector shall, as far as is in his power, make these points generally known to the owners of steam boilers.

Safety-valves that are spring loaded.—The size of the steel of which the springs are made must be in accordance with that found by the following formula:—

$$\frac{S \times D}{\sqrt[3]{C}} = d$$

S = the load on the spring in lbs.

D = the diameter of the spring (from centre to centre to wire) in inches

d = the diameter or side of square of the wire in inches.

C = 8000 for round steel.

C = 11000 for square steel.

The springs shall be protected from the steam and impurities issuing from the valves.

When valves are loaded by direct springs the compressing screws shall abut against metal stops or washers when the loads sanctioned by the Inspector are on the valves.

The springs shall have a sufficient number of coils to allow a compression under the working load of at least one-quarter diameter of the valve.

36. When the Inspector has determined the amount of pressure, he is to see the valves weighted accordingly and the weights or springs fixed in such a manner as to preclude the possibility of their shifting or in any way increasing the pressure. The limits of the weight on the valves is to be inserted in the declaration, and should it at any time come to the Inspector's knowledge that the weights or the loading of the valves have been shifted or otherwise altered, or that the valves have been in any way interfered with, so as to increase the pressure, without the sanction of *Government*, he is at once to report the facts.

APPENDIX.

(SEE RULE 23.)

Cylindrical Boiler Shells.

Joints with drilled holes.

Formulae for ordinary chain—riveted and ordinary zigzag-riveted joints, and for joints of these descriptions, when every alternate rivet in the outer or in the outer and inner rows have been omitted—

Let E=distance from edge of plate to centre of rivet in inches.
V=distance between rows of rivets in inches.
V=distance between inner and middle row of rivets in inches for joints J and K (figures 18 and 15).
B=boiler pressure per square inch in lbs.
C=1 for lap or single butt joints.
c=1·75 for double butt joints.
d=diameter of rivets in inches.
D=inside diameter of boiler in inches.
n=number of rivets in one pitch.
F=factor of safety for shell plates as by rules 16 and 23.
pD=diagonal pitch in inches.
PD=diagonal pitch in inches between inner and middle rows of rivets in inches for joint J.
p=greatest pitch of rivets in inches.
r=percentage of plate left between holes in greatest pitch.
R=percentage valve of rivet section.
R_1=percentage of combined plate and rivet section.
S=tensile strength of material in lbs. per square inch of section.
T=thickness of plate in inches.
T_1=Thickness of each butt strap in inches.
%=least valve of r, R, R1, as the case may be divided by 100.

When joints are used in boiler construction other than these shown in the attached sketches, or when any of the rivets are pitched less than two diameters apart, the particulars of such joints should be submitted for the consideration of Government.

Ordinary chain and zigzag-riveted joints.

Iron plates and iron rivets or steel plates and steel rivets.

$$\frac{100\ (p-d)}{p} = r$$

Iron plates and iron rivets.

$$\frac{100 \times d^2 \times {\cdot}7854 \times n \times C}{p \times T} = R$$

Steel plates and steel rivets.

$$\frac{100 \times 23 \times d^2 \times {\cdot}7854 \times n \times C \times F}{4{\cdot}5 \times 28 \times p \times T} = R$$

Given C, d, F, n, T, to find p so that r = R are equal.

Iron plates and iron rivets.

$$\frac{d^2 \times {\cdot}7854 \times n \times C}{T} + d = p$$

Steel plates and steel rivets :

$$\frac{23 \times d^2 \times {\cdot}7854 \times n \times C \times F}{4{\cdot}5 \times 28 \times T} + d = p$$

Given C, F, n, T, r, to find p and d

Iron plates and iron rivets.

$$\frac{r \times T}{(100 - r) \times {\cdot}7854 \times n \times C} = d$$

$$\frac{100 \times r \times T}{(100 - r)^2 \times {\cdot}7854 \times n \times c} = p$$

Steel plates and steel rivets.

$$\frac{4{\cdot}5 \times 28 \times r \times T}{23 \times (100 - r) \times {\cdot}7854 \times n \times C \times F} = d$$

$$\frac{100 \times 4{\cdot}5 \times 28 \times r \times T}{23 \times (100 - r)^2 \times {\cdot}7854 \times n \times C \times F} = p$$

Iron plates and iron rivets or steel plates and steel rivets when d is found first, then :

$$\frac{100\,d}{100 - r} = p$$

Butt straps.

Iron plates and iron butt-straps or steel plates and steel butt-straps.

Double butt-straps : $\frac{5 \times T}{8} = T_1$,

Single butt-straps : $\frac{9 \times T}{8} = T_1$,

For distance between Rows of Rivets, etc.

Iron and steel : $\frac{3 \times d}{2} = E$.

Chain-riveted joints (Figs. 2, 4, 6, 9, 11) not less than : $2 \times d = V$

See note at the end.

Zigzag-riveted joints (Figs. 3, 5, 7, 10, 12)

$$\frac{\sqrt{(11\,p + 4\,d)\,(p + 4\,d)}}{10} = V$$

Diagonal pitch (figs. 3, 5, 7, 10, 12)

$$\frac{6\,p + 4\,d}{10} = p\,D$$

To determine the working pressure

$$\frac{S \times \% \times 2\,T}{F \times D} = B$$

Chain and Zigzag-riveted joints in which every alternate rivet has been omitted in the outer row or in the outer and the inner rows such as are shown by the following sketches :—

Iron plates and iron rivets or steel plates and steel rivets :

$$\frac{100\,(p - d)}{p} = r$$

Iron plates and iron rivets.

$$\frac{100 \times d^2 \times \cdot 7854 \times n \times C}{p \times T} = R$$

Steel plates and steel rivets :

$$\frac{100 \times 23 \times d^2 \times \cdot 7854 \times n \times C \times F}{4 \cdot 5 \times 28 \times p \times T} = R$$

Iron plates and iron rivets or steel plates and steel rivets :

$$\frac{100\,(P - 2\,d)}{P} + \frac{R}{N} = R_1$$

Where the number of rivets in the inner row is double the number in the outer row—

Iron plates and iron butt-straps or steel plates butt-straps—

Double butt-straps

$$\frac{5 \times T\,(p - d)}{8 \times (p - 2\,d)} = T_1$$

Single butt-straps :

$$\frac{9 \times T\,(p - d)}{8 \times (p - 2\,d)} = T_1$$

When the number of rivets in the inner row is the same as in the outer row.

Double butt-straps.

$$\frac{5 \times T}{8} = T_1$$

Single butt-straps.

$$\frac{9 \times T}{8} = T_1$$

For distance between Rows of Rivets, etc.

Iron and Steel :

$$\frac{3 \times d}{2} = E$$

Chain-riveted joints (Figs. 13, 14, 15, 19).

$$\left.\begin{array}{l} \frac{\sqrt{(11\,p + 4d)\,(p + 4d)}}{10} = V \\ \text{or } 2 \times d = V \end{array}\right\}$$ The greater of these two values of V to be used see note at the end.

For joint K (Fig. 15)

$2 \times d = V_1$ See note at the end

Zigzag-riveted joints (Figs. 16, 17, 18, 20)

$$\sqrt{(\tfrac{11}{20}\,p + d)\,(\tfrac{1}{20}\,p + d)}$$

Diagonal pitch (Figs. 16, 17, 18, 20)

$$\tfrac{3}{10}\,p + d = p\,D$$

For joint J (Fig. 18)

$$\sqrt{\frac{(11\,p + 8\,d)\,(p + 8\,d)}{20}} = V_1$$

Diagonal pitch (Fig. 18)

$$\frac{3\,p + 4\,d}{10} = P_D$$

To determine the working pressure

$$\frac{S \times \% \times 2\,T}{F \times D} = B$$

Note.—The minimum value of $\bar{V}$ or V_1 for chain-riveted joints is given as 2 d, but $\frac{4\,d + 1}{2}$ is more desirable.

Maximum pitches for riveted joints.

T = thickness of plate in inches.

P = maximum pitch of rivets in inches provided it does not exceed 10 inches.

C = constant applicable from the following table:—

Number of rivets in one pitch	Constants for lap joints	Constants for double butt strap joints
1	1·31	1·75
2	2·62	3·50
3	3·47	4·63
4	4·14	5·52
5	...	6·00

$$(C \times T) + 1\tfrac{5}{8} = p.$$

When the work is first class, such pitches may be adopted so far as safety is concerned, yet in some cases it may be well not to adopt the greatest pitch found by the formula. The maximum pitch should not, however, exceed 10 inches with the thickest plates for boiler shells. If in any case the pitch is found to exceed that arrived at by the foregoing formula, for the particular description of joint and thickness of plate, such pitches should not be passed, but in all cases reported to Government.

NOTIFICATION.

No. D. 2244—I. & C. 78-24-17, dated 2nd September 1927.

The following draft Rules framed under the Provisions of Section 24 of the Regulation (No. III of 1920) to provide for the inspection and management of Steam boilers and Prime Movers in Mysore, are hereby published for the information of persons likely to be affected thereby and notice is hereby given that the draft will be taken into consideration on or after 15th October 1927, and that any objection or suggestion which may be received from any person with respect to the said draft Rules before the date aforesaid, will be considered by Government.

By Order,
N. RAMA RAO,
Secretary to Government,
Development Departments.

The Boiler Examination Rules.

A.—Preliminary.

1. These Rules may be called the Boiler Examination Rules.

2. In these Rules—

(*a*) 'The Regulation' means the Mysore Steam Boilers and Prime Movers Regulation III of 1920.

(*b*) 'Section' means a Section of the said Regulation.

(*c*) 'Examination' means the examination of the Boilers under the Regulation and 'Examination Fee' means fee leviable on account of the examination of boilers.

B.—The Inspector.

3. The Inspector shall not undertake any professional work unconnected with his business under the Regulation except with the approval, or under the orders of, Government.

4. All examination fees should be credited to Government.

5. The Inspector shall have an office in which all records connected with the working of the Regulation shall be kept.

6. The Inspector shall keep the following records.—

(*a*) a register of examination fee receipts.

(*b*) a book containing counterfoils of licenses.

(*c*) a register of boilers in the following form which has been prescribed under Section 9 :—

Name of owner	Place where boiler is situated	Registry number and description of boiler and age.	Nominal Horse power	When, where and by whom made	When and where last repaired	Date of grant of license	Maximum pressure at which the boiler may be worked	Time for which this license is to be in force	Remarks

(*d*) a book containing a detailed account of every examination made by him.

(*e*) a diary of work done by him from day to day.

(*f*) a register of licenses suspended or revoked under Section 12.

(*g*) a register showing the result of appeals presented under Section 13.

~~7. No boiler shall be examined under Section 5, unless the notice sent to the Inspector under that Section is accompanied by a Treasury receipt for having credited the fee therein; and the Inspector if he finds that the right fee has not been paid may decline to examine the boiler until it has been paid.~~

~~*C.—Examinations.*~~

~~8. Examination fees shall be paid in accordance with the following scale:—~~

		N. H P.	Rs.
~~(*i*)~~	~~For the examination of each boiler not exceeding.~~	~~10~~	~~12~~
~~(*ii*)~~	~~Do do ...~~	~~20~~	~~16~~
~~(*iii*)~~	~~Do do ...~~	~~30~~	~~24~~
~~(*iv*)~~	~~Do do ...~~	~~50~~	~~32~~
~~(*v*)~~	~~For the examination of each boiler exceeding.~~	~~50~~	~~40~~

~~9. Examinations will not be made on Sundays except in cases of absolute necessity. In such cases the fees may be increased by 25 per cent, the Inspector and his staff being allowed to divide the additional fee amongst them in proportion to their pay.~~

Appendix C.
Instructions issued for the information & guidance of Inspectors appointed under the Steam Boilers & Prime Movers Regulation
(Rules 6.)

Iron Boilers.

1 ~~10.~~ The Inspector is required by the Regulation to fix the pressure to be allowed on boilers. In performing this very responsible and onerous duty he must be very careful, as in the event of accident it will be necessary for him to prove clearly that he used due caution. On the one hand he must be careful as regards safety and on the other hand he must not unduly reduce the pressure on a boiler.

2 ~~11.~~ The Inspector should fix the working pressure for boilers by a series of calculations of the strength of the various parts and according to the workmanship and material.

In the case of boilers made in India, the Inspector may receive and examine plans and particulars of boilers before the commencement of manufacture with the object of preventing questions arising after the boilers are finished.

When the Inspector has received plans and tracings of new boiler or of alterations of boilers and has approved of them he *will be careful* in making his examination when the boiler is ready for work to see that they have been followed out. When he has not had the plans submitted, but is called in to inspect a boiler, he will of course measure the parts, note the details of construction and if necessary bore the plates to ascertain their thickness, etc., before he gives his certificate.

The Inspector shall not declare a boiler to be safe unless:—

(*a*) he is fully informed as to its construction, material and workmanship or unless (*b*) he is furnished with a certificate from a Chief Engineer of a recognised Boiler Insurance Company. He should therefore be very careful how he ventures to give a certificate.

3 ~~12.~~ In the case of new boilers, the Inspector may allow a stress not exceeding 7,000 lbs. per square inch of net section on solid iron screwed stays supporting flat surfaces, but the stress should not exceed 5,000 lbs. when the stays have been welded or worked in the fire.

The areas of diagonal stays are found in the following way:—Find the area of a direct stay needed to support the surface, multiply this area by the length of the diagonal stay and divide the product by the length of a line drawn at right angles to the surface supported to the end of the diagonal stay. The quotient will be the area of the diagonal stay required.

When Gusset stays are used, their area should be in excess of that found in the above way.

A stress of 6,000 lbs. may be allowed on the net section of iron stay tubes, providing that the net thickness is in no case less than one-fourth inch. When screwed stays are used and the threads are fine the depth of the nuts should be at least one and a quarter times the diameter of the stay.

4 ~~13.~~ When the tops of combustion boxes or other parts of boiler are supported by solid rectangular girders, the following formula should be used for finding the working pressure to be allowed on the girders, assuming that they are not subjected to a greater temperature than the ordinary heat of steam and in the case of combustion chambers that the ends are fitted to the edges of the tube plate and the back plate of the combustion box.

$$\frac{C\times d^2\times T}{(W-P)\ D\times L} = \text{Working pressure.}$$

W=Width of combustion box in inches.
P=Pitch of supporting bolts in inches.
D=Distance between the girders from centre to centre in inches.
L=Length of girder in feet.
D=Depth of girder in inches.
T=Thickness of girder in inches.
N=Number of supporting bolts.

$$C = \frac{N\times 1000}{N \text{ plus } 1} \text{ when the number of bolts is odd.}$$

$$C = \frac{(N \text{ plus } 1)\ 1000}{N \text{ plus } 2} \text{ when the number of bolts is even.}$$

The working pressure for the supporting bolts and for the plate between them should be determined by the rule for ordinary stays.

14. The pressure on plates forming flat surfaces is found by the following formula:—

$$\frac{C\times(T \text{ plus } 1)^2}{S-6} = \text{Working pressure.}$$

T=Thickness of the plate in sixteenths of an inch.
S=Surface supported in square inches.
C=Constant according to the following circumstances:—

C=100 when the plates are not exposed to the impact of heat or flame and the stays are fitted with nuts and washers, the latter being at least three times the diameter of the stay and two-thirds the thickness of the plates they cover.

Note.—If the diameter of riveted washers be at least two-thirds the pitch of the stays and the thickness not less than the plates they cover the constant may be increased to 150. When doubling plates are fitted of the same thickness as the plates they cover and not less in width than two-thirds the pitch of the stays, the constant may be increased to 160.

C=90 when the plates are not exposed to the impact of heat or flame and the stays are fitted with nuts only.

C=60 when the plates are exposed to the impact of heat or flame and steam in contact with the plates and the stays fitted with nuts and washers, the latter being at least three times the diameter of the stay and two-thirds the thickness of plates they cover.

C=54 when the plates are exposed to the impact of heat or flame and steam in contact with the plates and the stays fitted with the nuts only.

C=80 when the plates are exposed to the impact of heat or flame with water in contact with the plates and the stays screwed into the plates and fitted with nuts.

C=60 when the plates are exposed to the impact or heat or flame with water in contact with the plates and the stays screwed into the plates, having the ends riveted over to form substantial heads.

C=35 when the plates are exposed to the impact of heat or flame and steam in contact with the plates, with the stays

screwed into the plates and having the ends riveted over to form substantial heads.

C=67½ when the plates are not exposed to the impact of heat or flame and the stays are screwed into the plates and riveted over.

In cases where plates are stiffened by T or L irons and a greater pressure is required for the plates than is allowed by the use of the above constants, the case should be submitted for the consideration of Government.

When the riveted ends of screwed stays are much worn or when the nuts are burned, the constants should be reduced, but the Inspector must act according to the circumstances that present themselves at the time of inspection and it is expected that in cases where the riveted ends of screwed stays in the combustion boxes and furnaces are found in this state it will be often necessary to reduce the constant 60 to about 36.

The Inspector should not in any case allow a greater compressive stress on the edge of the tube plates than 7,500 lbs. per square inch, which is that used in the following formula :—

$$\frac{(D-d)\ T\times 15{,}000}{W\times D}=\text{Working pressure.}$$

D=Least horizontal distance between centres of tube in inches.

d=Inside diameter of ordinary tubes in inches.

T=Thickness of tube plate in inches.

W=Extreme width of combustion box in inches from front of tube plate to back of fire box or distance between combustion box tube plates when boiler is double ended and the box common to the furnaces at both ends.

18, The Inspector should take care that boilers, the outside of which cannot be seen, are cleared of all covering and fittings for inspection whenever the Inspector considers it necessary. It will often be found necessary to reduce the pressure, unless the boilers are partially cleared from their seats to enable the Inspector to judge of their condition. If the owners in any special case have any good reasons for not wishing to clear them when the Inspector requires it, the Inspector should submit the whole case in detail to ~~Government~~ Dir. of [illegible] in Mysore for ~~their~~ his consideration and orders. The Inspector must recollect that he is not to certify as sufficient any boiler respecting which he cannot thoroughly satisfy himself.

The Inspector should record in his Inspection book the dates on which the boilers are inspected, when and to what extent cleared from brick work, and whether the boilers were set or not when examined and if not set where they were examined. Boilers which have been cleared should in all cases be subjected to the Hydraulic test before the brick work is rebuilt.

16. Boilers well constructed, well designed and made of good material should have advantage in the matter of working pressure over boilers inferior in any of the above respects as unless this is done the superior boiler is placed at a disadvantage and good workmanship and material will be discouraged. The following rules are therefore prescribed :—

When cylindrical boilers are made of the best material with all the rivet holes drilled in place and all the seams fitted with double butt straps each of at least five-eighths the thickness of the plates they cover and all the seams at least double riveted with rivets having an allowance of not more than 75 per cent. over the single shear and provided that the boilers have been open to inspection during the whole period of construction, then five may be used as the factor of safety. The tensile strength of the iron is to be taken as equal to 47,000 lbs. per square inch with the grain and 40,000 lbs. across the grain. But when the above conditions are not complied with, the additions in the following scale must be added to the factor 5, according to the circumstances of each case :—

A. ·15 to be added when all the holes are fair and good in the longitudinal seams but drilled out of place after bending.

B. ·3 to be added when all the holes are fair and good in the longitudinal seams but drilled out of place before bending.

C. ·3 to be added when all the holes are fair and good in the longitudinal seams but punched after bending instead of drilled.

D. ·5 to be added when all the holes are fair and good in the longitudinal seams but punched before bending.

E. ·75 to be added when all the holes are not fair and good in the longitudinal seams.

F. ·1 to be added if the holes are all fair and good in the circumferential seams, but drilled out of place after bending.

G. ·15 to be added if the holes are fair and good in the circumferential seams but drilled before bending.

H. ·15 to be added if the holes are fair and good in the circumferential seams but punched after bending.

I. ·2 to be added if the holes are fair and good in the circumferential seams but punched before bending.

J. ·2 to be added if the holes are not fair and good in the circumferential seams.

K. ·2 to be added if double butt straps are not fitted to the longitudinal seams and the said seams are lap and double riveted.

L. ·1 to be added if double butt straps are not fitted to the longitudinal seams and the said seams are lap and treble riveted.

M. ·3 to be added if only single butt straps are fitted to the longitudinal seams and the said seams are double riveted.

Note :—*For*

A. B. G. & I. When the holes are to be rimered or bored out in place the case should be submitted to Government as to the reduction or omission of A. B. G. and I as heretofore.

Note :—If iron be tested and the elongation measured in a length of 10 inches is not less than 14 per cent with and 8 per cent across the grain, and the Inspector is otherwise satisfied as to the quality of the plates and rivets then 4·5 may be used instead of 5 in which case the minimum actual tensile strength of the plates shall be used in calculating the working pressure.

E. & J. The factor of safety should be increased still further if the workmanship or material is very doubtful or is very unsatisfactory.

N. ·15 to be added if only single butt straps are fitted to the longitudinal seams and the said seams are treble riveted.

O. 1·0 to be added when any description of joint in the longitudinal seams is single riveted.

P. ·1 to be added if the circumferential seams are fitted with single butt straps and are double riveted.

Q. ·2 to be added if the circumferential seams are fitted with single butt straps and are single riveted.

R. ·1 to be added if the circumferential seams are fitted with double butt straps and are single riveted.

S. ·1 to be added if the circumferential seams are lap joints and are double riveted.

T. ·2 to be added if the circumferential seams are lap joints and are single riveted.

U. ·25 to be added when the circumferential seams are lap joints and the strokes of plates are not entirely under or over.

V. ·3 to be added when the boiler is of such a length as to fire from both ends, or is of unusual length as in the case of flue boilers; and the circumferential seams fitted as described opposite P, R and S but of course when the circumferential seams are as described opposite Q, T, V ·3 will become ·4.

Note for V.—When boilers are comparatively short, the cases should be submitted to Government for consideration as to the omission of V as heretofore.

W. ·4 to be added if the seams are not properly crossed.

Welded seams in shells of receivers, or domes of iron boilers shall be considered as having a strength not exceeding 70 per cent of the solid plate.

X. ·4 to be added when the iron is in any way doubtful and the Inspector is not satisfied that it is of the best quality.

Note for W & X. ***Vide*** explanation in the note for V page).

Y. 1·65 to be added if no certificate is produced from a Chief Engineer of a recognised Boiler Insurance Company or if the boiler was not open to inspection during the whole period of its construction by the Inspectors of any recognised Boiler Insurance Company.

Note for Y. The recognition of a certificate under this rule is limited to new boilers when first licensed and to boilers not more than 10 years old provided they have not shown any defect during that period; should the plates of a boiler have become fitted or unduly sealed when exposed to the impact of flame or should the material have become deteriorated or should the boiler be one which was not subject to periodical inspection or cannot be efficiently examined internally, it will be in the discretion of the Inspector to increase the factor of safety as above.

When the circumferential seems are double strapped and double riveted and the calculated strength not less than 65 per cent of the solid plate V, ·3 may be omitted as heretofore.

The strength of the ordinary joints is found by the following method :—

$$\frac{(\text{Pitch}-\text{Diameter of rivet}) \times 100}{\text{Pitch}} = \text{Percentage of strength of plate at joint as compared with the solid plate.}$$

For the maximum pitch of rivets, see Appendix.

$$\frac{(\text{Area of rivet} \times \text{No : of rows of rivets}) \times 100}{\text{Pitch} \times \text{thickness of plate}} = \text{Percentage of strength rivets as compared with the solid plate.}$$

(*Note.* If the rivets are exposed to double shear multiply the percentage as found by 1·75).

Then take iron as equal to 47,000 lbs. per square inch and use the smaller of the two percentages as the strength of the joint and adopt the factor of safety as found from the preceding scale.

$$\frac{(47000 \times \text{percentage of strength of joint.} \times \text{twice the thickness of the plate in inches.}}{\text{Inside diameter of the boiler in inches} \times \text{factor of safety.}} =$$

Pressure to be allowed per square inch on the safety valves.

In the case of ordinary zigzag riveting, the strength through the plate diagonally between the rivets, where diagonal pitch = 6/10 horizontal pitch plus 4/10 diameter of rivet. Plates that are drilled in place must have been taken apart and the burr taken off and the holes slightly countersunk from the outside.

Butt straps must have been cut from plates and not from bars and must be of as good quality as the shell plates and for the longitudinal seams must be cut across the fibre. The rivet holes may have been punched or drilled out of place, but when drilled in place must have been taken apart and the burr taken off and slighty countersunk from the outside.

When single butt straps are used and the rivet holes in them punched they must be one-eighth thicker than the plates they cover.

The diameter of the rivets must not be less than the thickness of the plates of which the shell is made but it will be found when the plates are thin or when lap joints or single butt straps are adopted, that the diameter of the rivets should be in excess of the thickness of the plates.

Dished ends must be stayed as flat surfaces; but when they are theoretically equal to the pressure needed, when considered as portions of spheres, the stays when solid, may have a stress of 14,000 lbs. per square inch of net section, but the stress should not exceed 10,000 lbs. when the stays have been welded or worked in the fire.

Truly hemispherical ends subjected to internal pressure may be allowed double the pressure that is suitable for a cylinder of the same diameter and thickness.

All manholes and openings must be stiffened with compensating rings of at least the same effective sectional-area as the plates cut out, and in no case should the plate rings be less in thickness than the plates to which they are attached. The openings in the shells of cylindrical boilers should have their shorter axes placed longitudinally. It is very desirable that the compensating rings, round openings in flat surfaces be made of L or T iron. Cast iron doors are not to be passed.

The neutral part of boiler shells under steam domes must be efficiently stiffened and stayed, as serious accidents have arisen from the want of such precautions.

17. New boilers are to be tested by hydraulic pressure according to the following scale:—

Boilers intended to work up to 100 lbs. pressure per square inch or any pressure below that are to be tested to double the working pressure.

Above lbs.	100	up to lbs.	125	to be tested to lbs.	200
Do	125	do	150	do	230
Do	150	do	175	do	250
Do	175	do	200	do	270
Do	200	do	225	do	290
Do	225	do	250	do	310
Do	250	do	275	do	330
Do	275	do	300	do	350

Any boiler intended for working pressure above these to be tested to not less than 50 lbs above such working pressure.

In the case of old boilers the Inspector must use his own judgement as to the necessary pressure to be applied.

18. Circular furnaces with the longitudinal joints welded or made with a butt strap double riveted or double butt straps single riveted.

$$\frac{90{,}000 \times \text{the square of the thickness of the plate in inches}}{(\text{Length in feet plus } 1) \times \text{diameter in inches}} =$$

Working pressure per square inch; provided it does not exceed that found by the following formula.

$$\frac{9{,}000 \times \text{thickness in inches}}{\text{diameter in inches}} = \text{Working pressure per square inch.}$$

The second formula limits the crushing stress on the material to 4,500 lbs. per square inch.

The length is to be measured between the rings if the furnace is made with rings.

If the longitudinal joints instead of being butted are lap-jointed in the ordinary way, then 75,000 is to be used instead of 90,000 excepting only where the lap is bevelled and so made as to give the flues the form of a true circle, when 80,000 may be used.

When the material or the workmanship is not of the best quality, the constants given above must be reduced, that is to say the 90000 will become 80000, the 80000 will become 70000, the 70000 will become 60000; when neither the workmanship nor the material is of the best quality, such constants will require to be further reduced according to circumstances and the judgment of the Inspector as in the case of old boilers. One of the conditions of best workmanship is that the joints are double riveted with double butt straps or single riveted with double butt straps and the holes drilled after the bending is done and when in place and the plates afterwards taken apart, the burr on the wholes taken off and the holes slightly countersunk from the outside.

Note.—The following examples will serve to show the application of the constants of the different cases that may arise:—

Furnace with butt joints and drilled rivet holes—

90,000 where the longitudinal seams are welded.

90,000 where the longitudinal seams are double riveted and fitted with single butt straps.

80,000 where the longitudinal seams are single riveted and fitted with single butt straps.

90,000 where the longitudinal seams are single riveted and fitted with double butt straps.

Furnaces with butt joints and punched rivet holes—

85,000 where the longitudinal seams are double riveted and fitted with single butt straps.

75,000 where the longitudinal seams are single riveted and fitted with single butt straps.

85,000 where the longitudinal seams are single riveted and double fitted with butt straps.

Furnaces with lapped joints and drilled rivet holes—

80,000 where the longitudinal seams are double riveted and bevelled.

70,000 where the longitudinal seams are double riveted and bevelled.

70,000 where the longitudinal seams are single and bevelled.

65,000 where the longitudinal seams are single and not bevelled.

Furnaces with lapped joints and punched rivet holes—

75,000 where the longitudinal seams are double riveted and bevelled.

70,000 where the longitudinal seams are double riveted and not bevelled.

65,000 where the longitudinal seams are single riveted and bevelled.

60,000 where the longitudinal seams are single riveted and not bevelled.

In the case of upright fire boxes of donkey or similar boilers 10 per cent should be deducted from the constants given above, applicable to the respective classes of work.

The working pressure for corrugated furnaces, practically circular and machine made, provided the plane parts at the end do not exceed 6 inches in length and the plates are not less than 5/16 of an inch thick, should not be greater than found by the following formula:—

$$\frac{9{,}000 \times \text{thickness in inches}}{\text{mean diameter in inches}} = \text{Working pressure per square inch.}$$

The strength of the joints of cylindrical superheaters and the factor of safety are found in a similar manner as for cylindrical boilers and steam receivers, but instead of using 47,000 lbs. as the tensile strength of iron, 30,000 lbs. is adopted unless where the heat or flame impinges at or nearly at right angles to the plate, then 22,400 lbs. is substituted.

Where a superheater is constructed with a tube subject to external pressure, the working pressure should be ascertained by the rules given for circular furnaces, but the constants should be reduced as 30 to 47.

In all cases the internal steam-pipes should be so fitted that the steam in flowing to them will pass over all the plates which have steam in contact with them and are exposed to the impact of the heat or flame. Superheaters should as regards survey be deemed to be the most important part of the boilers and must be inspected inside and outside; those that cannot be entered on account of their size or arrangement must have a sufficient number of doors through which a thorough inspection of the whole of the interior can be made. Special attention should be paid to the survey of superheaters as with high pressures the plates may become dangerously weak and not give any sound to indicate their state when tested with a hammer; the plates should therefore be occasionally drilled. Drilling of furnace and the lower parts of combustion box plates, shell plates, etc., should of course be done when considered necessary in order to ascertain their actual thickness. If flaming is found to be of frequent occurrence in any boiler, extra care must be taken in the survey and in fixing the pressure as to be allowed as the tensible strength of plate when heated is ofen reduced to about 4 tons per square inch. Drain pipes must in all cases be fitted to superheaters in which a collection of water in the bottom is possible. Superheaters that can be shut off from the main boilers should be fitted with a parliamentary safety-valve of sufficient size, but the

least size passed without special sanction of Government should be 3 inches in diameter.

The flat ends, etc., of all boilers, as far as the steam space extends and the ends of superheaters should be fitted with shield or baffle plates where exposed to hot gases in the uptake.

As the uptakes of haystack boilers and others of similar type are especially liable to injury from overheating, unless careful precautions are taken while steam is being raised, the Inspector must in all cases persuade makers and owners of such boilers to make the strength of the uptakes considerably in excess of that required for ordinary superheaters subject to external pressures.

The employment of Bowling rings is beneficial by adding to the strength as well as allowing for expansion, but if there is a difficulty in getting these fitted, hoops riveted round although not so desirable as Bowling rings can be employed to increase the resistance of the tubes against collapse. The use of the Bowling rings with a moderate thickness of plate is better than very thick plating. This applies to the uptakes of all boilers of this type including ordinary vertical donkey boilers, Bowling rings fitted to all such uptakes would be a decided advantage in allowing for expansion.

STEEL BOILERS.

19. For steel boilers, the rules for iron boilers may be *varied* as follows:—

The constants for flat surfaces when they are supported by stays screwed into the plate and riveted 10 per cent. The constants for flat surfaces when they are supported by stays screwed into the plate and nutted, or when the stays are nutted in the steam space, 25 per cent. This is also applicable to the constants for flat suraces stiffened by riveted washers or doubling strips and supported by nutted stays.

The constants for combustion box girders, 10 per cent.

The constants for plain surfaces, 10 per cent.

In cases where the Inspector is satisfied from tests made on the steel from which the boiler has been constructed that it is of a certain tensile strength per square inch, that strength may be substituted for the 47,000 lbs. (allowed for iron plates) in the formula given in Rule 16 but in no case is a greater strength than 32 tons (71,680 lbs.) to be allowed. In other cases, provided there is sufficient proof that the boiler is of steel, a minimum of 26 tons may be used.

Solid steel screwed stays which have not been welded or otherwise worked after heating may be allowed a working stress of 9,000 lbs. per square inch of net section. Steel stays which have been welded or worked in the fire have been found to be unreliable; therefore they should not be passed.

20. When furnaces are machine made by the Leeds Forge Company of the Fox corrugated and Morrison suspension types or by Messrs. John Brown & Co., Sheffield of the Purves ribbed and grooved type, if they are practically true circles and the plates not less than 5/16 of an inch thick, the working pressure is found by the following formula:—

$$\frac{C \times T}{D} = \text{Working pressure}$$

C = 14000 for Fox's corrugated and Brown's ribbed and grooved furnaces.

C = 13,500 for Morrison's suspension furnace.

T = Thickness in inches.

D = Outside Diameter in inches, measured at the bottom of the corrugations where the furnace is of the corrugated or suspension type, or over the plain parts when it is of the ribbed and grooved description.

In Fox's corrugated furnaces, the pitch of the corrugations and the length of the plain parts at the ends should not exceed 6 inches, and in Morrisons's suspension furnaces the pitch should not exceed 8 inches and the length at the ends 5 inches.

In both descriptions of furnaces, the depth from top of corrugations outside to bottom of corrugations inside should not be less than 2 inches, the plates at the ends should not be unduly thinned in the flanging.

The plates of ribbed and grooved furnaces should be formed by rolling, the ribs should not be less than 15/16 inches above the plain parts and the depth of the grooves not more than ¾ inch, the length between the centres of the ribs not over 9 inches, and that of the plain parts at the ends not over 6 inches and the ends rolled slightly thicker than the plain parts and not reduced at any part by flanging, etc., below the thickness of the body of the furnace.

If the furnace is riveted in one or more lengths the case should be submitted for the consideration of Government.

21. When horizontal furnaces of ordinary diameter are constructed of a series of rings welded longitudinally and the ends of each ring flanged and the rings riveted together, and so forming the furnace the working pressure is found by the following formula provided the length in inches between the centres of the flanges of the rings is not greater than (120 T-12) and the flanging is performed at one heat by a suitable flanging machine and also the conditions which follow the formula are complied with :—

$$\frac{9{,}900 \times T}{3 \times D} \left(5 - \frac{L \text{ plus } 12}{60 \times T}\right) = \text{working pressure.}$$

T=Thickness of plate in inches.
L=length betwern centre of flanges in inches.
D=Outside diameter of furnace in inches.

The radii of the flanges on the fire side should be about 1½ inches. The depth of the flanges from the fire side should be three times the diameter of the rivet plus 1½ inches, and the thickness of the flanges should be as near the thickness of the body of the plate as practicable, The distance from the edge of the rivet holes to the edge of the flange should not be less than the diameter of the rivet and the diameter of the rivets at least 3/8 of an inch greater than the thickness of the plate. The depth of the ring between the flanges should not be less than three times the diameter of the rivets and the fire edge of the ring should be about the termination of the curve of flange; and the thickness not less than half the thickness of the furnace plate. Turned rings are such as may be considered a first class method of construction.

The holes in the flanges and rings should be drilled in place if practicable, but if not drilled in place, they should be drilled sufficiently small, and afterwards when in place rimered out until the holes are quite fair, the holes should be slightly tapered and the heads of the rivets of moderate size.

After all the welding, flanging and heating is completed each ring should be efficiently annealed in one operation,

22. A greater compressive stress should not be allowed on tube plates than 10,000 lbs. which is tha tused in the following formula.—

$$\frac{(D - d)\ T \times 20{,}000}{W \times D.} = \text{Working pressure}$$

D = Least horizontal distance between centres of tubes in inches.
d = Inside diameter of ordinary tubes in inches.
T = Thickness of tube plate in inches.
W = Extreme width of combustion box in inches from front of tube plate to back of fire box or distance between combustion box tube plates when boiler is double ended and the box common to the furnaces at both ends.

23. When full allowance is wished, the rivet section, f iron, in the longitudinal seams of cylindrical shells should, when those seams are lapped, be at least 13/8 times the

net plate section, and if steel rivets are used, their section should be at least 28/23 of the net section of the plate, if the tensile stress of the rivets is not less than 26 tons and not more than 32 tons per square inch. In calculating the working pressure the percentage strength of the rivets may be found in the usual way by the Rules, but in the case of iron rivets, the percentages found should be divided by 13/8 and in the case of steel rivets by 28/23, the results being the percentages required. If the percentage strength of the rivets by calculation is less than the calculated percentage strength of the plate, calculate the working pressure by both percentages, when using the percentage strength of the plate 4·5 plus the additions suitable for the method of construction as per Rule 16 for iron boilers, may be used as the nominal factor of safety, but when using the percentage strength of the rivets 4·5 may be used as the factor of safety. The less of the two pressures so found is the working pressure to be allowed for the cylindrical portion of the shell. See formula in ~~Appendix.~~ The Schedule appended hereto.

BOILERS—GENERAL.

24. Small boilers must be surveyed and be fitted the same way as the main boilers and have a water and steam guage, and all other fittings complete and as regards safety-valves must comply with the same regulations as the main boilers.

25. No boiler or steam chamber is to be so constructed, fitted or arranged that the escape of steam from it through the safety-valve can be wholly or partially intercepted by the action of any other valve.

A stop-valve must always be fitted between the boiler and the steam-pipe, and where two or more boilers are connected with a steam receiver or superheater, between each boiler and the superheater or steam receiver, the object of this is obvious, *viz.*, to avoid the failure of all the boilers through the failure of one. The neck of stop-valves should be as short as practicable.

26. Each boiler must be fitted with a glass water-guage, at least two test cocks or two glass water guages and steam guage, that is to say, each boiler must be fitted with all fittings as complete as if there were only one boiler. When a factory has more than one boiler and these boilers are fitted with stop-valves, each boiler must be treated as a separate one and have all the requisite fittings.

27. On every inspection of a steam boiler, the Inspector, should if the boiler is large enough, go inside it and make a thorough examination of it.

When the boilers are not large enough for the Inspector to get into, he should see them tested by hydraulic pressure at every annual inspection at least. The hydraulic test should also be applied at every inspection if the Inspector considers it necessary.

Whenever it is only removable stays that prevent getting in, he must order their removal and he must see them properly replaced before granting his declaration.

If any part of a main boiler near the uptake fire boxes or furnaces is so constructed that the Inspector cannot examine it, he is not to give a declaration, but shall report the case to Government.

If for special reasons and for special reasons only the Inspector cannot go inside a small boiler, he must distinctly state on the face of his declaration his reasons for not being able to do so.

28. If the boiler is too hot for the Inspector to examine the inside efficiently, and with safety and convenience, he should decline to examine the boiler, and absolutely refuse to grant a certificate until he can make an efficient internal examination.

28. Before testing a boiler the Inspector shall examine it, take the necessary measurements and calculate what the

working pressure should be in accordance with the regulations, and only test it with reference to that pressure in accordance with Rule 17. If the test is not satisfactory, the pressure must be proportionately reduced.

This course will enable any necessary alterations to be made by the owners and prevent delay or disappointment. The Inspector who grants the certificate should not increase the working pressure without consulting Government.

The Inspector who grants the certificate must examine the boilers thoroughly and in the absence of special instructions from Government will be held responsible for the pressure allowed.

29. The Inspector shall see all new boilers and boilers that have been cleaned for a thorough repair, tested by hydraulic, in accordance with Rule 17 previous to the boilers being set and before they are covered in to test the workmanship, etc., but the working pressure is to be determined by the strength of stays, thickness of plates and strength of rivetting, etc., and not by the hydraulic test.

The hydraulic test should in no case exceed twice the calculated working pressure of the boiler and it is never to be applied until the boiler has been examined and until the strength has been calculated from the necessary measurements taken from the boiler itself.

When the boilers are set the Inspector may, at any time he thinks it necessary, before he gives a certificate, have them tested by hydraulic pressure to satisfy himself as to any doubtful part or of places not easy of access, care being taken in the case of old boilers not to overstrain them, but the test must always exceed the working pressure.

The hydraulic test should before a certificate is granted be applied to all boilers that have not previously had a working certificate.

When a boiler is partially inspected by one Inspector, and the inspection is completed and a certificate granted by another, if the Inspector who witnesses the test of the boiler by hydraulic pressure has an opportunity of examining it inside and outside after the test, such Inspector should determine the pressure to be allowed on the boiler in question, taking care to inform the makers, owners or agents and the Inspector who is ultimately to grant a certificate, what pressure should in his opinion be allowed on it. In the event of the original Inspector having no opportunity to examine the boiler inside and out after the hydraulic test, the Inspector must retest the boiler by water and examine the boiler inside and out before determining the working pressure and granting a certificate.

The amount of the hydraulic pressure test and the date on which it was last applied to the boiler, should be inserted in the Inspector's certificate and recorded in the dimension sheet of that boiler.

Inspectors should pay particular attention to the examination and testing of steam pipes and economisers.

The working pressure of well made copper pipes when the joints are brazed is found by the following formula :—

$$\frac{6000 \times (T - \frac{1}{16})}{D} = \text{Working pressure.}$$

T = Thickness in inches.
D = Inside diameter in inches.

When the pipes are solid drawn and not over 8 inches diameter substitute in the foregoing formula $^1/_{32}$ for $^1/_{16}$.

The internal pressure on wrought iron pipes made of good material and lap welded, may be determined by the following formula provided that the thickness is not less than $\frac{1}{4}$ inch and the workmanship by hydraulic test, etc., safisfactory :—

$$\frac{6000 \times T}{D} = \text{Working pressure.}$$

T = Thickness in inches.
D = Inside diameter in inches.

Feed pipes should be made sufficient for a pressure 20 per cent in excess of boiler pressure.

In all cases in which a socket expansion joint is fitted to a bent steam pipe, the Inspector should require a fixed gland and bolts to be fitted, in order to prevent the end of the pipe being forced out of the socket. This regulation should be complied with in all cases of bent pipes fitted with socket expansion joints. Fixed glands and bolts should be fitted to the expansion joints of straight steam pipes, as cases have occurred, particularly with small straight pipes, in which the ends of the pipes have been forced out of the sockets.

31. In all boilers in which the Inspector finds that cast iron is employed in such a manner as to be subject to the pressure of steam or water, he shall report the circumstances to Government in order that he may obtain instructions how to act. Cast iron must not be used for stays and the Inspector should discourage the use of cast iron saddles for boilers.

32. A pressure once allowed on a boiler is not under any circumstances whatever to be increased unless the Inspector has previously written for and obtained the sanction of Government.

In case the Inspector is of opinion that an increased pressure may with safety be allowed, he shall communicate with the Inspector who last inspected the boiler, and if on learning the reasons why the existing pressure was formerly allowed, the Inspector is still of opinion that it may be increased, he should communicate all the facts to Government, but as above stated, the pressure shall not in any case be increased until the question has been decided by him.

33. The Inspector is instructed that in all ***new boilers*** and whenever alterations can be easily made, the safety-valve and stop-valve should be placed directly on the boiler, and the neck or part between the valve and the flange which is bolted on to the boiler, should be as short as possible.

The Inspector should note that it is not intended by this instruction that old boilers which have been previously passed with such an arrangement should be thrown out of work for the alterations to be carried out.

Of course in any case in which the Inspector is of opinion that it is positively dangerous to have a length of pipe between the boilers and the safety-valve, it is his duty to insist at once on the requisite alterations being made before granting a declaration.

The Inspector shall declare, amongst other things, the limits of the weight to be placed on the safety-valves and that the safety-valves are such and in such condition as the circumstances of the case demand.

34. The area of safety-valves per squre foot of fire grate surface or (when there is more than one safety-valve on the boiler) the combined area of the safety-valves should be not less than that given in the following table opposite the boiler pressure intended, provided the valves are not less than two inches in diameter. This applies to new boilers which have not received a working certificate.

In ascertaining the fire grate area, the length of the grate should be measured from the inner edge of the dead plate to the front of the bridge, and the width from side to side of the furnace on the top of the bars at the middle of their length.

If there is only one safety-valve on a main boiler the Inspector should not grant a certificate without first referring the case to Government for special instructions.

In the case of small boilers, if it is wished to fit valves smaller than two inches diameter, the case should be submitted ~~for the consideration of Government.~~ to the Dir. of Ind. for orders.

Boiler Pressure	Area of value per sq. foot of fire grate	Boiler Pressure	Area of valve per sq. foot of fire grate
lb.	Sq. inch	lb.	Sq. inch
15	1·250	108	·304
16	1·209	109	·302
17	1·171	110	·300
18	1 136	111	·297
19	1·102	112	·295
20	1·071	113	·292
21	1·041	114	·290
22	1·013	115	·288
23	·986	116	·286
24	·961	117	·284
25	·937	118	·281
26	·914	119	·279
27	·892	120	·277
28	·872	121	·275
29	·852	122	·273
30	·833	123	·271
31	·815	124	·269
32	·797	125	·267
33	·781	126	·265
34	·765	127	·264
35	·750	128	·262
36	·735	129	·260
37	·721	130	258
38	·707	131	·256
39	·694	132	·255
40	·681	133	·253
41	·669	134	·251
42	·657	135	·250
43	·646	136	·248
44	·635	137	·246
45	·625	138	·245
46	·614	139	·243
47	·604	140	·241
48	·595	141	·240
49	·585	142	·238
50	·576	143	·237
51	·568	144	·235
52	·559	145	·234
53	·551	146	·232
54	·543	147	·231
55	·535	148	·230
56	·528	149	·228
57	·520	150	·227
58	·513	151	·225
59	·506	152	·224
60	·500	153	·223
61	·493	154	·221
62	·487	155	·220
63	·480	156	·219
64	·474	157	·218
65	·468	158	·216
66	·462	159	·215
67	·457	160	·214
68	·451	161	·213
69	·446	162	·211
70	·441	163	·210
71	·436	164	·209
72	·431	165	208
73	·426	166	·207
74	·421	167	·206
75	·416	168	·204
76	·412	169	·203
77	·407	170	·202
78	·403	171	·201
79	·398	172	·200
80	·394	173	·199
81	·390	174	·198
82	·386	175	·197
83	·382	176	·196
84	·378	177	·195
85	·375	178	·194
86	·371	179	·193
87	·367	180	·192
88	·364	181	·191
89	·360	182	·190
90	·357	183	·189
91	·353	184	·188
92	·350	185	·187
93	·347	186	·186
94	·344	187	·185
95	·340	188	·184
96	·337	189	183
97	·334	190	·182
98	331	191	·181
99	·328	192	·181
100	·326	193	·180
101	·323	194	·179
102	·320	195	·178
193	·317	196	·177
104	·315	197	·176
105	·312	198	·176
106	·309	199	·175
107	·307	200	·174

35. The Inspector in his examination of boilers and appurtenances is particularly to direct his attention to the safety.valves and whenever he considers it necessary he is to satisfy himself as to the pressure on the boiler by actual trial.

The Inspector is to fix the limits of the weight to be placed on safety-valves and the responsibility of issuing a certificate before he is fully satisfied on the point is very grave. The Inspector is to examine the whole of the valves, weights and springs at every inspection.

The responsibility of seeing to the efficiency of the mode by which the valves are fitted so as to be as much as practicable under the control of the Engineer when the steam is up, rests with the Inspector.

The safety-valve should be fitted with lifting gear, which should in all cases be arranged so that it can be worked by hand. Care should be taken that the safety-valves have a lift equal to at least one-fourth of their diameter, that openings for the passage of steam to and from the valves, including the waste steam-pipe, should each have an area not less than the area of valves required and that each valve box has a drain pipe fitted at its lower part. In the case of lever valves, if the lever is not bushed with brass, the pins must be of brass, iron and iron working together must not be passed. Too much care cannot be devoted to seeing that there is proper lift, and free means of escape of waste steam, as it is obvious that unless the lift and means for escape of waste steam are ample, the effect is the same as reducing the area of the valve or putting on an extra load. The valve seats should be secured by studs and nuts.

The Inspector shall, as far as is in his power, make these points generally known to the owners of steam boilers.

Safety-valves that are spring loaded.—The size of the steel of which the springs are made must be in accordance with that found by the following formula:—

$$\sqrt[3]{\frac{S \times D}{C}} = d$$

S = the load on the spring in lbs.

D = the diameter of the spring (from centre to centre to wire) in inches

d = the diameter or side of square of the wire in inches.

C = 8000 for round steel.

C = 11000 for square steel.

The springs shall be protected from the steam and impurities issuing from the valves.

When valves are loaded by direct springs the compressing screws shall abut against metal stops or washers when the loads sanctioned by the Inspector are on the valves.

The springs shall have a sufficient number of coils to allow a compression under the working load of at least one-quarter diameter of the valve.

36. When the Inspector has determined the amount of pressure, he is to see the valves weighted accordingly and the weights or springs fixed in such a manner as to preclude the possibility of their shifting or in any way increasing the pressure. The limits of the weight on the valves is to be inserted in the declaration, and should it at any time come to the Inspector's knowledge that the weights or the loading of the valves have been shifted or otherwise altered, or that the valves have been in any way interfered with, so as to increase the pressure, without the sanction of ~~Government,~~ he is at once to report the facts.

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Schedule
~~APPENDIX.~~

(SEE RULE 23.)

Cylindrical Boiler Shells.

Joints with drilled holes.

Formulae for ordinary chain—riveted and ordinary zigzag-riveted joints, and for joints of these descriptions, when every alternate rivet in the outer or in the outer and inner rows have been omitted—

Let E=distance from edge of plate to centre of rivet in inches.
V=distance between rows of rivets in inches.
V=distance between inner and middle row of rivets in inches for joints J and K (figures 18 and 15).
B=boiler pressure per square inch in lbs.
C=1 for lap or single butt joints.
c=1·75 for double butt joints.
d=diameter of rivets in inches.
D=inside diameter of boiler in inches.
n=number of rivets in one pitch.
F=factor of safety for shell plates as by rules 16 and 23.
pD=diagonal pitch in inches.
PD=diagonal pitch in inches between inner and middle rows of rivets in inches for joint J.
p=greatest pitch of rivets in inches.
r=percentage of plate left between holes in greatest pitch.
R=percentage valve of rivet section.
R_1=percentage of combined plate and rivet section.
S=tensile strength of material in lbs. per square inch of section.
T=thickness of plate in inches.
T_1=Thickness of each butt strap in inches.

%=least valve of r, R, R1, as the case may be divided by 100. When joints are used in boiler construction other than these shown in the attached sketches, or when any of the rivets are pitched less than two diameters apart, the particulars of such joints should be submitted for the consideration of Government.

Ordinary chain and zigzag-riveted joints.

Iron plates and iron rivets or steel plates and steel rivets.

$$\frac{100\,(p-d)}{p} = r$$

Iron plates and iron rivets.

$$\frac{100 \times d^2 \times \cdot 7854 \times n \times C}{p \times T} = R$$

Steel plates and steel rivets.

$$\frac{100 \times 23 \times d^2 \times \cdot 7854 \times n \times C \times F}{4\cdot 5 \times 28 \times p \times T} = R$$

Given C, d, F, n, T, to find p so that r = R are equal.

Iron plates and iron rivets.

$$\frac{d^2 \times \cdot 7854 \times n \times C}{T} + d = p$$

Steel plates and steel rivets:

$$\frac{23 \times d^2 \times \cdot 7854 \times n \times C \times F}{4\cdot 5 \times 28 \times T} + d = p$$

Given C, F, n, T, r, to find p and d

Iron plates and iron rivets:

$$\frac{r \times T}{(100 - r) \times \cdot 7854 \times n \times C} = d$$

$$\frac{100 \times r \times T}{(100 - r)^2 \times \cdot 7854 \times n \times c} = p$$

Steel plates and steel rivets.

$$\frac{4\cdot 5 \times 28 \times r \times T}{23 \times (100 - r) \times \cdot 7854 \times n \times C \times F} = d$$

$$\frac{100 \times 4\cdot 5 \times 28 \times r \times T}{23 \times (100 - r)^2 \times \cdot 7854 \times n \times C \times F} = p.$$

Iron plates and iron rivets or steel plates and steel rivets when d is found first, then :

$$\frac{100\,d}{100 - r} = p$$

Butt straps.

Iron plates and iron butt-straps or steel plates and steel butt-straps.

Double butt-straps : $\frac{5 \times T}{8} = T_1$,

Single butt-straps : $\frac{9 \times T}{8} = T_1$,

For distance between Rows of Rivets, etc.

Iron and steel : $\frac{3 \times d}{2} = E$.

Chain-riveted joints (Figs. 2, 4, 6, 9, 11) not less than :
$2 \times d = V$

See note at the end.

Zigzag-riveted joints (Figs. 3, 5, 7, 10, 12)

$$\frac{\sqrt{(11\,p + 4\,d)\,(p + 4\,d)}}{10} = V$$

Diagonal pitch (figs. 3, 5, 7, 10, 12)

$$\frac{6\,p + 4\,d}{10} = p\,D$$

To determine the working pressure

$$\frac{S \times \% \times 2\,T}{F \times D} = B$$

Chain and Zigzag-riveted joints in which every alternate rivet has been omitted in the outer row or in the outer and the inner rows such as are shown by the following sketches :—

Iron plates and iron rivets or steel plates and steel rivets :

$$\frac{100\,(p - d)}{p} = r$$

Iron plates and iron rivets.

$$\frac{100 \times d^2 \times \cdot 7854 \times n \times C}{p \times T} = R$$

Steel plates and steel rivets :

$$\frac{100 \times 23 \times d^2 \times \cdot 7854 \times n \times C \times F}{4 \cdot 5 \times 28 \times p \times T} = R$$

Iron plates and iron rivets or steel plates and steel rivets :

$$\frac{100\,(P - 2\,d)}{P} + \frac{R}{N} = R_1$$

Where the number of rivets in the inner row is double the number in the outer row—

Iron plates and iron butt-straps or steel plates butt-straps—

Double butt-straps

$$\frac{5 \times T\,(p - d)}{8 \times (p - 2\,d)} = T_1$$

Single butt-straps :

$$\frac{9 \times T\,(p - d)}{8 \times (p - 2\,d)} = T_1$$

When the number of rivets in the inner row is the same as in the outer row.

Double butt-straps.

$$\frac{5 \times T}{8} = T_1$$

Single butt-straps.

$$\frac{9 \times T}{8} = T_1$$

For distance between Rows of Rivets, etc.

Iron and Steel :

$$\frac{3 \times d}{2} = E$$

Chain-riveted joints (Figs. 13, 14, 15, 19)

$$\left.\begin{array}{l} \dfrac{\sqrt{(11\,p + 4d)\,(p + 4d)}}{10} = V \\ \text{or } 2 \times d = V \end{array}\right\}$$

The greater of these two values of V to be used see note at the end.

For joint K (Fig. 15)

$2 \times d = V_1$ See note at the end

Zigzag-riveted joints (Figs. 16, 17, 18, 20)

$$\sqrt{(\tfrac{11}{20}\,p + d)\,(\tfrac{1}{20}\,p + d)}$$

Diagonal pitch (Figs. 16, 17, 18, 20)

$$\tfrac{3}{10}\,p + d = p\,D$$

For joint J (Fig. 18)

$$\sqrt{\frac{(11\,p + 8\,d)\,(p + 8\,d)}{20}} = V_1$$

Diagonal pitch (Fig. 18)

$$\frac{3\,p + 4\,d}{10} = P_D$$

To determine the working pressure

$$\frac{S \times \% \times 2\,T}{F \times D} = B$$

Note.—The minimum value of V or V_1 for chain-riveted joints is given as 2 d, but $\frac{4\,d + 1}{2}$ is more desirable.

Maximum pitches for riveted joints.

T = thickness of plate in inches.

P = maximum pitch of rivets in inches provided it does not exceed 10 inches.

C = constant applicable from the following table:—

Number of rivets in one pitch	Constants for lap joints	Constants for double butt strap joints
1	1·31	1·75
2	2·62	3·50
3	3·47	4·63
4	4·14	5·52
5	...	6·00

$$(C \times T) + 1\tfrac{5}{8} = p.$$

When the work is first class, such pitches may be adopted so far as safety is concerned, yet in some cases it may be well not to adopt the greatest pitch found by the formula. The maximum pitch should not, however, exceed 10 inches with the thickest plates for boiler shells. If in any case the pitch is found to exceed that arrived at by the foregoing formula, for the particular description of joint and thickness of plate, such pitches should not be passed, but in all cases reported to Government.

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PART III.

Legislative Measures and Rules thereunder.

NOTIFICATION.

No. D. 2244—*I. & C.* 78-24-17, *dated* 2*nd September* 1927.

The following draft Rules framed under the Provisions of Section 24 of the Regulation (No. III of 1920) to provide for the inspection and management of Steam boilers and Prime Movers in Mysore, are hereby published for the information of persons likely to be affected thereby and notice is hereby given that the draft will be taken into consideration on or after 15th October 1927, and that any objection or suggestion which may be received from any person with respect to the said draft Rules before the date aforesaid, will be considered by Government.

By Order,
N. Rama Rao,
Secretary to Government,
Development Departments.

The Boiler Examination Rules.

A.—Preliminary.

1. These Rules may be called the Boiler Examination Rules.

2. In these Rules—

(*a*) 'The Regulation' means the Mysore Steam Boilers and Prime Movers Regulation III of 1920.

(*b*) 'Section' means a Section of the said Regulation.

(*c*) 'Examination' means the examination of the Boilers under the Regulation and 'Examination Fee' means fee leviable on account of the examination of boilers.

B.—The Inspector.

3. The Inspector shall not undertake any professional work unconnected with his business under the Regulation except with the approval, or under the orders of, Government.

4. All examination fees should be credited to Government.

5. The Inspector shall have an office in which all records connected with the working of the Regulation shall be kept.

6. The Inspector shall keep the following records.—

(*a*) a register of examination fee receipts.

(*b*) a book containing counterfoils of licenses.

(*c*) a register of boilers in the following form which has been prescribed under Section 9:—

Name of owner	Place where boiler is situated	Registry number and description of boiler and age	Nominal Horse power	When, where and by whom made	When and where last repaired	Date of grant of license	Maximum pressure at which the boiler may be worked	Time for which this license is to be in force	Remarks

(*d*) a book containing a detailed account of every examination made by him.

(*e*) a diary of work done by him from day to day.

(*f*) a register of licenses suspended or revoked under Section 12.

(*g*) a register showing the result of appeals presented under Section 13.

7. No boiler shall be examined under Section 5, unless the notice sent to the Inspector under that Section is accompanied by a Treasury receipt for having credited the fee therein; and the Inspector if he finds that the right fee has not been paid may decline to examine the boiler until it has been paid.

C.—*Examinations.*

8. Examination fees shall be paid in accordance with the following scale:—

			NHP.	Rs.
(*i*)	For the examination of each boiler not exceeding.		10	12
(*ii*)	Do	do ...	20	16
(*iii*)	Do	do ...	30	24
(*iv*)	Do	do ...	50	32
(*v*)	For the examination of each boiler exceeding.		50	40

9. Examinations will not be made on Sundays except in cases of absolute necessity. In such cases the fees may be increased by 25 per cent, the Inspector and his staff being allowed to divide the additional fee amongst them in proportion to their pay.

Iron Boilers.

App. B.

10. The Inspector is required by the Regulation to fix the pressure to be allowed on boilers. In performing this very responsible and onerous duty he must be very careful, as in the event of accident it will be necessary for him to prove clearly that he used due caution. On the one hand he must be careful as regards safety and on the other hand he must not unduly reduce the pressure on a boiler.

11. The Inspector should fix the working pressure for boilers by a series of calculations of the strength of the various parts and according to the workmanship and material.

In the case of boilers made in India, the Inspector may receive and examine plans and particulars of boilers before the commencement of manufacture with the object of preventing questions arising after the boilers are finished.

When the Inspector has received plans and tracings of new boiler or of alterations of boilers and has approved of them he *will be careful* in making his examination when the boiler is ready for work to see that they have been followed out. When he has not had the plans submitted, but is called in to inspect a boiler, he will of course measure the parts, note the details of construction and if necessary bore the plates to ascertain their thickness, etc., before he gives his certificate.

The Inspector shall not declare a boiler to be safe unless:—

(*a*) he is fully informed as to its construction, material and workmanship or unless (*b*) he is furnished with a certificate from a Chief Engineer of a recognised Boiler Insurance Company. He should therefore be very careful how he ventures to give a certificate.

12. In the case of new boilers, the Inspector may allow a stress not exceeding 7,000 lbs. per square inch of net section on solid iron screwed stays supporting flat surfaces, but the stress should not exceed 5,000 lbs. when the stays have been welded or worked in the fire.

The areas of diagonal stays are found in the following way:—Find the area of a direct stay needed to support the surface, multiply this area by the length of the diagonal stay and divide the product by the length of a line drawn at right angles to the surface supported to the end of the diagonal stay. The quotient will be the area of the diagonal stay required.

When Gusset stays are used, their area should be in excess of that found in the above way.

A stress of 6,000 lbs. may be allowed on the net section of iron stay tubes, providing that the net thickness is in no case less than one-fourth inch. When screwed stays are used and the threads are fine the depth of the nuts should be at least one and a quarter times the diameter of the stay.

13. When the tops of combustion boxes or other parts of boiler are supported by solid rectangular girders, the following formula should be used for finding the working pressure to be allowed on the girders, assuming that they are not subjected to a greater temperature than the ordinary heat of steam and in the case of combustion chambers that the ends are fitted to the edges of the tube plate and the back plate of the combustion box.

$$\frac{C \times d^2 \times T}{(W-P)\ D \times L} = \text{Working pressure.}$$

W=Width of combustion box in inches:
P=Pitch of supporting bolts in inches.
D=Distance between the girders from centre to centre in inches.
L=Length of girder in feet.
D=Depth of girder in inches.
T=Thickness of girder in inches.
N=Number of supporting bolts.

$$C = \frac{N \times 1000}{N \text{ plus } 1} \text{ when the number of bolts is odd.}$$

$$C = \frac{(N \text{ plus } 1)\ 1000}{N \text{ plus } 2} \text{ when the number of bolts is even.}$$

The working pressure for the supporting bolts and for the plate between them should be determined by the rule for ordinary stays.

14. The pressure on plates forming flat surfaces is found by the following formula :—

$$\frac{C \times (T \text{ plus } 1)^2}{S-6} = \text{Working pressure.}$$

T=Thickness of the plate in sixteenths of an inch.
S=Surface supported in square inches.
C=Constant according to the following circumstances :—

C=100 when the plates are not exposed to the impact of heat or flame and the stays are fitted with nuts and washers, the latter being at least three times the diameter of the stay and two-thirds the thickness of the plates they cover.

Note.—If the diameter of riveted washers be at least two-thirds the pitch of the stays and the thickness not less than the plates they cover the constant may be increased to 150. When doubling plates are fitted of the same thickness as the plates they cover and not less in width than two-thirds the pitch of the stays, the constant may be increased to 160.

C=90 when the plates are not exposed to the impact of heat or flame and the stays are fitted with nuts only.

C=60 when the plates are exposed to the impact of heat or flame and steam in contact with the plates and the stays fitted with nuts and washers, the latter being at least three times the diameter of the stay and two-thirds the thickness of plates they cover.

C=54 when the plates are exposed to the impact of heat or flame and steam in contact with the plates and the stays fitted with the nuts only.

C=80 when the plates are exposed to the impact of heat or flame with water in contact with the plates and the stays screwed into the plates and fitted with nuts.

C=60 when the plates are exposed to the impact or heat or flame with water in contact with the plates and the stays screwed into the plates, having the ends riveted over to form substantial heads.

C=36 when the plates are exposed to the impact of heat or flame and steam in contact with the plates,. with the stays

screwed into the plates and having the ends riveted over to form substantial heads.

C=67½ when the plates are not exposed to the impact of heat or flame and the stays are screwed into the plates and riveted over.

In cases where plates are stiffened by T or L irons and a greater pressure is required for the plates than is allowed by the use of the above constants, the case should be submitted for the consideration of Government.

When the riveted ends of screwed stays are much worn or when the nuts are burned, the constants should be reduced, but the Inspector must act according to the circumstances that present themselves at the time of inspection and it is expected that in cases where the riveted ends of screwed stays in the combustion boxes and furnaces are found in this state it will be often necessary to reduce the constant 60 to about 36.

The Inspector should not in any case allow a greater compressive stress on the edge of the tube plates than 7,500 lbs. per square inch, which is that used in the following formula:—

$$\frac{(D-d)\ T\times 15{,}000}{W\times D} = \text{Working pressure.}$$

D=Least horizontal distance between centres of tube in inches.

d=Inside diameter of ordinary tubes in inches.

T=Thickness of tube plate in inches.

W=Extreme width of combustion box in inches from front of tube plate to back of fire box or distance between combustion box tube plates when boiler is double ended and the box common to the furnaces at both ends.

18. The Inspector should take care that boilers, the outside of which cannot be seen, are cleared of all covering and fittings for inspection whenever the Inspector considers it necessary. It will often be found necessary to reduce the pressure, unless the boilers are partially cleared from their seats to enable the Inspector to judge of their condition. If the owners in any special case have any good reasons for not wishing to clear them when the Inspector requires it, the Inspector should submit the whole case in detail to Government for their consideration. The Inspector must recollect that he is not to certify as sufficient any boiler respecting which he cannot thoroughly satisfy himself.

The Inspector should record in his Inspection book the dates on which the boilers are inspected, when and to what extent cleared from brick work, and whether the boilers were set or not when examined and if not set where they were examined. Boilers which have been cleared should in all cases be subjected to the Hydraulic test before the brick work is rebuilt.

16. Boilers well constructed, well designed and made of good material should have advantage in the matter of working pressure over boilers inferior in any of the above respects as unless this is done the superior boiler is placed at a disadvantage and good workmanship and material will be discouraged. The following rules are therefore prescribed :—

When cylindrical boilers are made of the best material with all the rivet holes drilled in place and all the seams fitted with double butt straps each of at least five-eights the thickness of the plates they cover and all the seams at least double riveted with rivets having an allowance of not more than 75 per cent over the single shear and provided that the boilers have been open to inspection during the whole period of construction, then five may be used as the factor of safety. The tensile strength of the iron is to be taken as equal to 47,000 lbs. per square inch with the grain and 40,000 lbs. across the grain. But when the above conditions are not complied with, the additions in the following scale must be added to the factor 5, according to the circumstances of each case :—

A. ·15 to be added when all the holes are fair and good in the longitudinal seams but drilled out of place after bending.

B. ·3 to be added when all the holes are fair and good in the longitudinal seams but drilled out of place before bending.

C. ·3 to be added when all the holes are fair and good in the longitudinal seams but punched after bending instead of drilled.

D. ·5 to be added when all the holes are fair and good in the longitudinal seams but punched before bending.

E. ·75 to be added when all the holes are not fair and good in the longitudinal seams.

F. ·1 to be added if the holes are all fair and good in the circumferential seams, but drilled out of place after bending.

G. ·15 to be added if the holes are fair and good in the circumferential seams but drilled before bending.

H. ·15 to be added if the holes are fair and good in the circumferential seams but punched after bending.

I. ·2 to be added if the holes are fair and good in the circumferential seams but punched before bending.

J. ·2 to be added if the holes are not fair and good in the circumferential seams.

K. ·2 to be added if double butt straps are not fitted to the longitudinal seams and the said seams are lap and double riveted.

L. ·1 to be added if double butt straps are not fitted to the longitudinal seams and the said seams are lap and treble riveted.

M. ·3 to be added if only single butt straps are fitted to the longitudinal seams and the said seams are double riveted.

Note :—For

A. B. G. & I. When the holes are to be rimered or bored out in place the case should be submitted to Government as to the reduction or omission of A. B. G. and I as heretofore.

Note :—If iron be tested and the elongation measured in a length of 10 inches is not less than 14 per cent with and 8 per cent across the grain, and the Inspector is otherwise satisfied as to the quality of the plates and rivets then 4·5 may be used instead of 5 in which case the minimum actual tensile strength of the plates shall be used in calculating the working pressure.

E. & J. The factor of safety should be increased still further if the workmanship or material is very doubtful or is very unsatisfactory.

N. ·15 to be added if only single butt straps are fitted to the longitudinal seams and the said seams are treble riveted.

O. 1·0 to be added when any description of joint in the longitudinal seams is single riveted.

P. ·1 to be added if the circumferential seams are fitted with single butt straps and are double riveted.

Q. ·2 to be added if the circumferential seams are fitted with single butt straps and are single riveted.

R. ·1 to be added if the circumferential seams are fitted with double butt straps and are single riveted.

S. ·1 to be added if the circumferential seams are lap joints and are double riveted.

T. ·2 to be added if the circumferential seams are lap joints and are single riveted.

U. ·25 to be added when the circumferential seams are lap joints and the strokes of plates are not entirely under or over.

V. ·3 to be added when the boiler is of such a length as to fire from both ends, or is of unusual length as in the case of flue boilers; and the circumferential seams fitted as described opposite P, R and S but of course when the circumferential seams are as described opposite Q, T, V ·3 will become ·4.

Note for V.—When boilers are comparatively short, the cases should be submitted to Government for consideration as to the omission of V as heretofore.

W. ·4 to be added if the seams are not properly crossed.

Welded seams in shells of receivers, or domes of iron boilers shall be considered as having a strength not exceeding 70 per cent of the solid plate.

X. ·4 to be added when the iron is in any way doubtful and the Inspector is not satisfied that it is of the best quality.

Note for W & X. *Vide* explanation in the note for V page).

Y. 1·65 to be added if no certificate is produced from a Chief Engineer of a recognised Boiler Insurance Company or if the boiler was not open to inspection during the whole period of its construction by the Inspectors of any recognised Boiler Insurance Company.

Note for Y. The recognition of a certificate under this rule is limited to new boilers when first licensed and to boilers not more than 10 years old provided they have not shown any defect during that period; should the plates of a boiler have become fitted or unduly sealed when exposed to the impact of flame or should the material have become deteriorated or should the boiler be one which was not subject to periodical inspection or cannot be efficiently examined internally, it will be in the discretion of the Inspector to increase the factor of safety as above.

When the circumferential seems are double strapped and double riveted and the calculated strength not less than 65 per cent of the solid plate V, ·3 may be omitted as heretofore.

The strength of the ordinary joints is found by the following method :—

$$\frac{(\text{Pitch}-\text{Diameter of rivet}) \times 100}{\text{Pitch}} = \text{Percentage of strength of plate at joint as compared with the solid plate.}$$

For the maximum pitch of rivets, see Appendix.

$$\frac{(\text{Area of rivet} \times \text{No: of rows of rivets}) \times 100}{\text{Pitch} \times \text{thickness of plate}} = \text{Percentage of strength rivets as compared with the solid plate.}$$

(*Note*. If the rivets are exposed to double shear multiply the percentage as found by 1·75).

Then take iron as equal to 47,000 lbs. per square inch and use the smaller of the two percentages as the strength of the joint and adopt the factor of safety as found from the preceding scale.

$$\frac{(47000 \times \text{percentage of strength of joint.} \times \text{twice the thickness of the plate in inches.}}{\text{Inside diameter of the boiler in inches} \times \text{factor of safety.}} =$$

Pressure to be allowed per square inch on the safety valves.

In the case of ordinary zigzag riveting, the strength through the plate diagonally between the rivets, where diagonal pitch = 6/10 horizontal pitch plus 4/10 diameter of rivet. Plates that are drilled in place must have been taken apart and the burr taken off and the holes slightly countersunk from the outside.

Butt straps must have been cut from plates and not from bars and must be of as good quality as the shell plates and for the longitudinal seams must be cut across the fibre. The rivet holes may have been punched or drilled out of place, but when drilled in place must have been taken apart and the burr taken off and slighty countersunk from the outside.

When single butt straps are used and the rivet holes in them punched they must be one-eighth thicker than the plates they cover.

The diameter of the rivets must not be less than the thickness of the plates of which the shell is made but it will be found when the plates are thin or when lap joints or single butt straps are adopted, that the diameter of the rivets should be in excess of the thickness of the plates.

Dished ends must be stayed as flat surfaces; but when they are theoretically equal to the pressure needed, when considered as portions of spheres, the stays when solid, may have a stress of 14,000 lbs. per square inch of net section, but the stress should not exceed 10,000 lbs. when the stays have been welded or worked in the fire.

Truly hemispherical ends subjected to internal pressure may be allowed double the pressure that is suitable for a cylinder of the same diameter and thickness.

All manholes and openings must be stiffened with compensating rings of at least the same effective sectional area as the plates cut out, and in no case should the plate rings be less in thickness than the plates to which they are attached. The openings in the shells of cylindrical boilers should have their shorter axes placed longitudinally. It is very desirable that the compensating rings, round openings in flat surfaces be made of L or T iron. Cast iron doors are not to be passed.

The neutral part of boiler shells under steam domes must be efficiently stiffened and stayed, as serious accidents have arisen from the want of such precautions.

17. New boilers are to be tested by hydraulic pressure according to the following scale:—

Boilers intended to work up to 100 lbs. pressure per square inch or any pressure below that are to be tested to double the working pressure.

Above lbs.	100	up to lbs.	125	to be tested to lbs.	200
Do	125	do	150	do	230
Do	150	do	175	do	250
Do	175	do	200	do	270
Do	200	do	225	do	290
Do	225	do	250	do	310
Do	250	do	275	do	330
Do	275	do	300	do	350

Any boiler intended for working pressure above these to be tested to not less than 50 lbs. above such working pressure.

In the case of old boilers the Inspector must use his own judgement as to the necessary pressure to be applied.

18. Circular furnaces with the longitudinal joints welded or made with a butt strap double riveted or double butt straps single riveted.

$$\frac{90{,}000 \times \text{the square of the thickness of the plate in inches}}{(\text{Length in feet plus } 1) \times \text{diameter in inches}} =$$

Working pressure per square inch, provided it does not exceed that found by the following formula.

$$\frac{9{,}000 \times \text{thickness in inches}}{\text{diameter in inches}} = \text{Working pressure per square inch.}$$

The second formula limits the crushing stress on the material to 4,500 lbs. per square inch.

The length is to be measured between the rings if the furnace is made with rings.

If the longitudinal joints instead of being butted are lap-jointed in the ordinary way, then 75,000 is to be used instead of 90,000 excepting only where the lap is bevelled and so made as to give the flues the form of a true circle, when 80,000 may be used.

When the material or the workmanship is not of the best quality, the constants given above must be reduced, that is to say the 90000 will become 80000, the 80000 will become 70000, the 70000 will become 60000; when neither the workmanship nor the material is of the best quality, such constants will require to be further reduced according to circumstances and the judgment of the Inspector as in the case of old boilers. One of the conditions of best workmanship is that the joints are double riveted with double butt straps or single riveted with double butt straps and the holes drilled after the bending is done and when in place and the plates afterwards taken apart, the burr on the wholes taken off and the holes slightly countersunk from the outside.

Note.—The following examples will serve to show the application of the constants of the different cases that may arise:—

Furnace with butt joints and drilled rivet holes—

90,000 where the longitudinal seams are welded.

90,000 where the longitudinal seams are double riveted and fitted with single butt straps.

80,000 where the longitudinal seams are single riveted and fitted with single butt straps.

90,000 where the longitudinal seams are single riveted and fitted with double butt straps.

Furnaces with butt joints and punched rivet holes—

85,000 where the longitudinal seams are double riveted and fitted with single butt straps.

75,000 where the longitudinal seams are single riveted and fitted with single butt straps.

85,000 where the longitudinal seams are single riveted and double fitted with butt straps.

Furnaces with lapped joints and drilled rivet holes—

80,000 where the longitudinal seams are double riveted and bevelled.

70,000 where the longitudinal seams are double riveted and bevelled.

70,000 where the longitudinal seams are single and bevelled.

65,000 where the longitudinal seams are single and not bevelled.

Furnaces with lapped joints and punched rivet holes—

75,000 where the longitudinal seams are double riveted and bevelled.

70,000 where the longitudinal seams are double riveted and not bevelled.

65,000 where the longitudinal seams are single riveted and bevelled.

60,000 where the longitudinal seams are single riveted and not bevelled.

In the case of upright fire boxes of donkey or similar boilers 10 per cent should be deducted from the constants given above, applicable to the respective classes of work.

The working pressure for corrugated furnaces, practically circular and machine made, provided the plane parts at the end do not exceed 6 inches in length and the plates are not less than 5/16 of an inch thick, should not be greater than found by the following formula :—

$$\frac{9{,}000 \times \text{thickness in inches}}{\text{mean diameter in inches}} = \text{Working pressure per square inch.}$$

The strength of the joints of cylindrical superheaters and the factor of safety are found in a similar manner as for cylindrical boilers and steam receivers, but instead of using 47,000 lbs. as the tensile strength of iron, 30,000 lbs. is adopted unless where the heat or flame impinges at or nearly at right angles to the plate, then 22,400 lbs. is substituted.

Where a superheater is constructed with a tube subject to external pressure, the working pressure should be ascertained by the rules given for circular furnaces, but the constants should be reduced as 30 to 47.

In all cases the internal steam-pipes should be so fitted that the steam in flowing to them will pass over all the plates which have steam in contact with them and are exposed to the impact of the heat or flame. Superheaters should as regards survey be deemed to be the most important part of the boilers and must be inspected inside and outside; those that cannot be entered on account of their size or arrangement must have a sufficient number of doors through which a thorough inspection of the whole of the interior can be made. Special attention should be paid to the survey of superheaters as with high pressures the plates may become dangerously weak and not give any sound to indicate their state when tested with a hammer; the plates should therefore be occasionally drilled. Drilling of furnace and the lower parts of combustion box plates, shell plates, etc., should of course be done when considered necessary in order to ascertain their actual thickness. If flaming is found to be of frequent occurrence in any boiler, extra care must be taken in the survey and in fixing the pressure as to be allowed as the tensible strength of plate when heated is ofen reduced to about 4 tons per square inch. Drain pipes must in all cases be fitted to superheaters in which a collection of water in the bottom is possible. Superheaters that can be shut off from the main boilers should be fitted with a parliamentary safety-valve of sufficient size, but the

least size passed without special sanction of Government should be 3 inches in diameter.

The flat ends, etc., of all boilers, as far as the steam space extends and the ends of superheaters should be fitted with shield or baffle plates where exposed to hot gases in the uptake.

As the uptakes of haystack boilers and others of similar type are especially liable to injury from overheating, unless careful precautions are taken while steam is being raised, the Inspector must in all cases persuade makers and owners of such boilers to make the strength of the uptakes considerably in excess of that required for ordinary superheaters subject to external pressures.

The employment of Bowling rings is beneficial by adding to the strength as well as allowing for expansion, but if there is a difficulty in getting these fitted, hoops riveted round although not so desirable as Bowling rings can be employed to increase the resistance of the tubes against collapse. The use of the Bowling rings with a moderate thickness of plate is better than very thick plating. This applies to the uptakes of all boilers of this type including ordinary vertical donkey boilers, Bowling rings fitted to all such uptakes would be a decided advantage in allowing for expansion.

STEEL BOILERS.

19. For steel boilers, the rules for iron boilers may be *varied* as follows:—

The constants for flat surfaces when they are supported by stays screwed into the plate and riveted 10 per cent. The constants for flat surfaces when they are supported by stays screwed into the plate and nutted, or when the stays are nutted in the steam space, 25 per cent. This is also applicable to the constants for flat suraces stiffened by riveted washers or doubling strips and supported by nutted stays.

The constants for combustion box girders, 10 per cent.

The constants for plain surfaces, 10 per cent.

In cases where the Inspector is satisfied from tests made on the steel from which the boiler has been constructed that it is of a certain tensile strength per square inch, that strength may be substituted for the 47,000 lbs. (allowed for iron plates) in the formula given in Rule 16 but in no case is a greater strength than 32 tons (71,680 lbs.) to be allowed. In other cases, provided there is sufficient proof that the boiler is of steel, a minimum of 26 tons may be used.

Solid steel screwed stays which have not been welded or otherwise worked after heating may be allowed a working stress of 9,000 lbs. per square inch of net section. Steel stays which have been welded or worked in the fire have been found to be unreliable; therefore they should not be passed.

20. When furnaces are machine made by the Leeds Forge Company of the Fox corrugated and Morrison suspension types or by Messrs. John Brown & Co., Sheffield of the Purves ribbed and grooved type, if they are practically true circles and the plates not less than 5/16 of an inch thick, the working pressure is found by the following formula:—

$$\frac{C \times T}{D} = \text{Working pressure}$$

C = 14000 for Fox's corrugated and Brown's ribbed and grooved furnaces.

C=13,500 for Morrison's suspension furnace.

T=Thickness in inches.

D=Outside Diameter in inches, measured at the bottom of the corrugations where the furnace is of the corrugated or suspension type, or over the plain parts when it is of the ribbed and grooved description.

In Fox's corrugated furnaces, the pitch of the corrugations and the length of the plain parts at the ends should not exceed 6 inches, and in Morrisons's suspension furnaces the pitch should not exceed 8 inches and the length at the ends 5 inches.

In both descriptions of furnaces, the depth from top of corrugations outside to bottom of corrugations inside should not be less than 2 inches, the plates at the ends should not be unduly thinned in the flanging.

The plates of ribbed and grooved furnaces should be formed by rolling, the ribs should not be less than 15/16 inches above the plain parts and the depth of the grooves not more than ¾ inch, the length between the centres of the ribs not over 9 inches, and that of the plain parts at the ends not over 6 inches and the ends rolled slightly thicker than the plain parts and not reduced at any part by flanging, etc., below the thickness of the body of the furnace.

If the furnace is riveted in one or more lengths the case should be submitted for the consideration of Government.

21. When horizontal furnaces of ordinary diameter are constructed of a series of rings welded longitudinally and the ends of each ring flanged and the rings riveted together, and so forming the furnace the working pressure is found by the following formula provided the length in inches between the centres of the flanges of the rings is not greater than (120 T-12) and the flanging is performed at one heat by a suitable flanging machine and also the conditions which follow the formula are complied with :—

$$\frac{9{,}900 \times T}{3 \times D} \left(5 - \frac{L \text{ plus } 12}{60 \times T}\right) = \text{working pressure.}$$

T=Thickness of plate in inches.
L=length betwern centre of flanges in inches.
D=Outside diameter of furnace in inches.

The radii of the flanges on the fire side should be about 1½ inches. The depth of the flanges from the fire side should be three times the diameter of the rivet plus 1½ inches, and the thickness of the flanges should be as near the thickness of the body of the plate as practicable. The distance from the edge of the rivet holes to the edge of the flange should not be less than the diameter of the rivet and the diameter of the rivets at least 3/8 of an inch greater than the thickness of the plate. The depth of the ring between the flanges should not be less than three times the diameter of the rivets and the fire edge of the ring should be about the termination of the curve of flange; and the thickness not less than half the thickness of the furnace plate. Turned rings are such as may be considered a first class method of construction.

The holes in the flanges and rings should be drilled in place if practicable, but if not drilled in place, they should be drilled sufficiently small, and afterwards when in place rimered out until the holes are quite fair, the holes should be slightly tapered and the heads of the rivets of moderate size.

After all the welding, flanging and heating is completed, each ring should be efficiently annealed in one operation,

22. A greater compressive stress should not be allowed on tube plates than 10,000 lbs. which is tha tused in the following formula.—

$$\frac{(D-d)\ T \times 20{,}000}{W \times D.} = \text{Working pressure}$$

D = Least horizontal distance between centres of tubes in inches.
d = Inside diameter of ordinary tubes in inches.
T = Thickness of tube plate in inches.
W = Extreme width of combustion box in inches from front of tube plate to back of fire box or distance between combustion box tube plates when boiler is double ended and the box common to the furnaces at both ends.

23. When full allowance is wished, the rivet section, if iron, in the longitudinal seams of cylindrical shells should, when those seams are lapped, be at least 13/8 times the

net plate section, and if steel rivets are used, their section should be at least 28/23 of the net section of the plate, if the tensile stress of the rivets is not less than 26 tons and not more than 32 tons per square inch. In calculating the working pressure the percentage strength of the rivets may be found in the usual way by the Rules, but in the case of iron rivets, the percentages found should be divided by 13/8 and in the case of steel rivets by 28/23, the results being the percentages required. If the percentage strength of the rivets by calculation is less than the calculated percentage strength of the plate, calculate the working pressure by both percentages, when using the percentage strength of the plate 4·5 plus the additions suitable for the method of construction as per Rule 16 for iron boilers, may be used as the nominal factor of safety, but when using the percentage strength of the rivets 4·5 may be used as the factor of safety. The less of the two pressures so found is the working pressure to be allowed for the cylindrical portion of the shell. See formula in Appendix.

BOILERS—GENERAL.

24. Small boilers must be surveyed and be fitted the same way as the main boilers and have a water and steam guage, and all other fittings complete and as regards safety-valves must comply with the same regulations as the main boilers.

25. No boiler or steam chamber is to be so constructed, fitted or arranged that the escape of steam from it through the safety-valve can be wholly or partially intercepted by the action of any other valve.

A stop-valve must always be fitted between the boiler and the steam-pipe, and where two or more boilers are connected with a steam receiver or superheater, between each boiler and the superheater or steam receiver, the object of this is obvious, *viz.*, to avoid the failure of all the boilers through the failure of one. The neck of stop-valves should be as short as practicable.

26. Each boiler must be fitted with a glass water-guage, at least two test cocks or two glass water guages and steam guage, that is to say, each boiler must be fitted with all fittings as complete as if there were only one boiler. When a factory has more than one boiler and these boilers are fitted with stop-valves, each boiler must be treated as a separate one and have all the requisite fittings.

27. On every inspection of a steam boiler, the Inspector, should if the boiler is large enough, go inside it and make a thorough examination of it.

When the boilers are not large enough for the Inspector to get into, he should see them tested by hydraulic pressure at every annual inspection at least. The hydraulic test should also be applied at every inspection if the Inspector considers it necessary.

Whenever it is only removable stays that prevent getting in, he must order their removal and he must see them properly replaced before granting his declaration.

If any part of a main boiler near the uptake fire boxes or furnaces is so constructed that the Inspector cannot examine it, he is not to give a declaration, but shall report the case to Government.

If for special reasons and for special reasons only the Inspector cannot go inside a small boiler, he must distinctly state on the face of his declaration his reasons for not being able to do so.

28. If the boiler is too hot for the Inspector to examine the inside efficiently, and with safety and convenience, he should decline to examine the boiler, and absolutely refuse to grant a certificate until he can make an efficient internal examination.

28. Before testing a boiler the Inspector shall examine it, take the necessary measurements and calculate what the

working pressure should be in accordance with the regulations, and only test it with reference to that pressure in accordance with Rule 17. If the test is not satisfactory, the pressure must be proportionately reduced.

This course will enable any necessary alterations to be made by the owners and prevent delay or disappointment. The Inspector who grants the certificate should not increase the working pressure without consulting Government.

The Inspector who grants the certificate must examine the boilers thoroughly and in the absence of special instructions from Government will be held responsible for the pressure allowed.

29. The Inspector shall see all new boilers and boilers that have been cleaned for a thorough repair, tested by hydraulic, in accordance with Rule 17 previous to the boilers being set and before they are covered in to test the workmanship, etc., but the working pressure is to be determined by the strength of stays, thickness of plates and strength of rivetting, etc., and not by the hydraulic test.

The hydraulic test should in no case exceed twice the calculated working pressure of the boiler and it is never to be applied until the boiler has been examined and until the strength has been calculated from the necessary measurements taken from the boiler itself.

When the boilers are set the Inspector may, at any time he thinks it necessary, before he gives a certificate, have them tested by hydraulic pressure to satisfy himself as to any doubtful part or of places not easy of access, care being taken in the case of old boilers not to overstrain them, but the test must always exceed the working pressure.

The hydraulic test should before a certificate is granted be applied to all boilers that have not previously had a working certificate.

When a boiler is partially inspected by one Inspector, and the inspection is completed and a certificate granted by another, if the Inspector who witnesses the test of the boiler by hydraulic pressure has an opportunity of examining it inside and outside after the test, such Inspector should determine the pressure to be allowed on the boiler in question, taking care to inform the makers, owners or agents and the Inspector who is ultimately to grant a certificate, what pressure should in his opinion be allowed on it. In the event of the original Inspector having no opportunity to examine the boiler inside and out after the hydraulic test, the Inspector must retest the boiler by water and examine the boiler inside and out before determining the working pressure and granting a certificate.

The amount of the hydraulic pressure test and the date on which it was last applied to the boiler, should be inserted in the Inspector's certificate and recorded in the dimension sheet of that boiler.

Inspectors should pay particular attention to the examination and testing of steam pipes and economisers.

The working pressure of well made copper pipes when the joints are brazed is found by the following formula:—

$$\frac{6000 \times (T - \frac{1}{16})}{D} = \text{Working pressure.}$$

T = Thickness in inches.
D = Inside diameter in inches.

When the pipes are solid drawn and not over 8 inches diameter substitute in the foregoing formula $^1/_{32}$ for $^1/_{16}$.

The internal pressure on wrought iron pipes made of good material and lap welded, may be determined by the following formula provided that the thickness is not less than ¼ inch and the workmanship by hydraulic test, etc., satisfactory:—

$$\frac{6000 \times T}{D} = \text{Working pressure.}$$

T = Thickness in inches.
D = Inside diameter in inches.

Feed pipes should be made sufficient for a pressure 20 per cent in excess of boiler pressure.

In all cases in which a socket expansion joint is fitted to a bent steam pipe, the Inspector should require a fixed gland and bolts to be fitted, in order to prevent the end of the pipe being forced out of the socket. This regulation should be complied with in all cases of bent pipes fitted with socket expansion joints. Fixed glands and bolts should be fitted to the expansion joints of straight steam pipes, as cases have occurred, particularly with small straight pipes, in which the ends of the pipes have been forced out of the sockets.

31. In all boilers in which the Inspector finds that cast iron is employed in such a manner as to be subject to the pressure of steam or water, he shall report the circumstances to Government in order that he may obtain instructions how to act. Cast iron must not be used for stays and the Inspector should discourage the use of cast iron saddles for boilers.

32. A pressure once allowed on a boiler is not under any circumstances whatever to be increased unless the Inspector has previously written for and obtained the sanction of Government.

In case the Inspector is of opinion that an increased pressure may with safety be allowed, he shall communicate with the Inspector who last inspected the boiler, and if on learning the reasons why the existing pressure was formerly allowed, the Inspector is still of opinion that it may be increased, he should communicate all the facts to Government, but as above stated, the pressure shall not in any case be increased until the question has been decided by him.

33. The Inspector is instructed that in all *new boilers* and whenever alterations can be easily made, the safety-valve and stop-valve should be placed directly on the boiler, and the neck or part between the valve and the flange which is bolted on to the boiler, should be as short as possible.

The Inspector should note that it is not intended by this instruction that old boilers which have been previously passed with such an arrangement should be thrown out of work for the alterations to be carried out.

Of course in any case in which the Inspector is of opinion that it is positively dangerous to have a length of pipe between the boilers and the safety-valve, it is his duty to insist at once on the requisite alterations being made before granting a declaration.

The Inspector shall declare, amongst other things, the limits of the weight to be placed on the safety-valves and that the safety-valves are such and in such condition as the circumstances of the case demand.

34. The area of safety-valves per squre foot of fire grate surface or (when there is more than one safety-valve on the boiler) the combined area of the safety-valves should be not less than that given in the following table opposite the boiler pressure intended, provided the valves are not less than two inches in diameter. This applies to new boilers which have not received a working certificate.

In ascertaining the fire grate area, the length of the grate should be measured from the inner edge of the dead plate to the front of the bridge, and the width from side to side of the furnace on the top of the bars at the middle of their length.

If there is only one safety-valve on a main boiler the Inspector should not grant a certificate without first referring the case to Government for special instructions.

In the case of small boilers, if it is wished to fit valves smaller than two inches diameter, the case should be submitted for the consideration of Government.

Boiler Pressure	Area of value per sq. foot of fire grate	Boiler Pressure	Area of valve per sq. foot of fire grate
lb.	Sq inch	lb.	Sq. inch
15	1·250	108	·304
16	1·209	109	·302
17	1·171	110	·300
18	1·136	111	·297
19	1·102	112	295
20	1·071	113	·292
21	1·041	114	·290
22	1·013	115	·288
23	·986	116	·286
24	·961	117	·284
25	·937	118	·281
26	·914	119	·279
27	·892	120	277
28	·872	121	·275
29	·852	122	·273
30	·833	123	·271
31	·815	124	·269
32	·797	125	·267
33	·781	126	·265
34	·765	127	·264
35	·750	128	·262
36	735	129	·260
37	·721	130	·258
38	·707	131	·256
39	·694	132	·255
40	·681	133	·253
41	·669	134	·251
42	·657	135	·250
43	·646	136	·248
44	·635	137	·246
45	·625	138	·245
46	·614	139	·243
47	604	140	241
48	·595	141	·240
49	·585	142	·238
50	·576	143	·237
51	·568	144	·235
52	·559	145	·234
53	·551	146	·232
54	·543	147	·231
55	·535	148	·230
56	·528	149	·228
57	·520	150	·227
58	·513	151	·225
59	·506	152	·224
60	·500	153	·223
61	·493	154	·221
62	·487	155	·220
63	·480	156	·219
64	·474	157	·218
65	·468	158	·216
66	·462	159	·215
67	·457	160	·214
68	·451	161	·213
69	·446	162	·211
70	·441	163	·210
71	·436	164	·209
72	·431	165	·208
73	·426	166	·207
74	·421	167	·206
75	·416	168	·204
76	·412	169	·203
77	·407	170	·202
78	·403	171	·201
79	·398	172	·200
80	·394	173	·199
81	·390	174	·198
82	·386	175	·197
83	·382	176	·196
84	·378	177	·195
85	·375	178	·194
86	·371	179	·193
87	·367	180	·192
88	·364	181	·191
89	·360	182	·190
90	·357	183	·189
91	·353	184	·138
92	·350	185	·187
93	·347	186	·186
94	·344	187	·185
95	·340	188	·184
96	·337	189	·183
97	334	190	·182
98	·331	191	·181
99	·328	192	·181
100	·326	193	·180
101	·323	194	·179
102	·320	195	·178
193	·317	196	·177
104	·315	197	·176
105	·312	198	·176
106	·309	199	·175
107	·307	200	·174

35. The Inspector in his examination of boilers and appurtenances is particularly to direct his attention to the safety-valves and whenever he considers it necessary he is to satisfy himself as to the pressure on the boiler by actual trial.

The Inspector is to fix the limits of the weight to be placed on safety-valves and the responsibility of issuing a certificate before he is fully satisfied on the point is very grave. The Inspector is to examine the whole of the valves, weights and springs at every inspection.

The responsibility of seeing to the efficiency of the mode by which the valves are fitted so as to be as much as practicable under the control of the Engineer when the steam is up, rests with the Inspector.

The safety-valve should be fitted with lifting gear, which should in all cases be arranged so that it can be worked by hand. Care should be taken that the safety-valves have a lift equal to at least one-fourth of their diameter, that openings for the passage of steam to and from the valves, including the waste steam-pipe, should each have an area not less than the area of valves required and that each valve box has a drain pipe fitted at its lower part. In the case of lever valves, if the lever is not bushed with brass, the pins must be of brass, iron and iron working together must not be passed. Too much care cannot be devoted to seeing that there is proper lift, and free means of escape of waste steam, as it is obvious that unless the lift and means for escape of waste steam are ample, the effect is the same as reducing the area of the valve or putting on an extra load. The valve seats should be secured by studs and nuts.

The Inspector shall, as far as is in his power, make these points generally known to the owners of steam boilers.

Safety-valves that are spring loaded.—The size of the steel of which the springs are made must be in accordance with that found by the following formula :—

$$\sqrt[3]{\frac{S \times D}{C}} = d$$

S=the load on the spring in lbs.
D=the diameter of the spring (from centre to centre to wire) in inches.
d=the diameter or side of square of the wire in inches.
C=8000 for round steel.
C=11000 for square steel.

The springs shall be protected from the steam and impurities issuing from the valves.

When valves are loaded by direct springs the compressing screws shall abut against metal stops or washers when the loads sanctioned by the Inspector are on the valves.

The springs shall have a sufficient number of coils to allow a compression under the working load of at least one-quarter diameter of the valve.

36. When the Inspector has determined the amount of pressure, he is to see the valves weighted accordingly and the weights or springs fixed in such a manner as to preclude the possibility of their shifting or in any way increasing the pressure. The limits of the weight on the valves is to be inserted in the declaration, and should it at any time come to the Inspector's knowledge that the weights or the loading of the valves have been shifted or otherwise altered, or that the valves have been in any way interfered with, so as to increase the pressure, without the sanction of *Government*, he is at once to report the facts.

APPENDIX.

(SEE RULE 23.)

Cylindrical Boiler Shells.

Joints with drilled holes.

Formulae for ordinary chain—riveted and ordinary zigzag-riveted joints, and for joints of these descriptions, when every alternate rivet in the outer or in the outer and inner rows have been omitted—

Let E=distance from edge of plate to centre of rivet in inches.
V=distance between rows of rivets in inches.
V=distance between inner and middle row of rivets in inches for joints J and K (figures 18 and 15).
B=boiler pressure per square inch in lbs.
C=1 for lap or single butt joints.
c=1·75 for double butt joints.
d=diameter of rivets in inches.
D=inside diameter of boiler in inches.
n=number of rivets in one pitch.
F=factor of safety for shell plates as by rules 16 and 23.
pD=diagonal pitch in inches.
PD=diagonal pitch in inches between inner and middle rows of rivets in inches for joint J.
p=greatest pitch of rivets in inches.
r=percentage of plate left between holes in greatest pitch.
R=percentage valve of rivet section.
R_1=percentage of combined plate and rivet section.
S=tensile strength of material in lbs. per square inch of section.
T=thickness of plate in inches.
T_1=Thickness of each butt strap in inches.
%=least valve of r, R, R1, as the case may be divided by 100. When joints are used in boiler construction other than these shown in the attached sketches, or when any of the rivets are pitched less than two diameters apart, the particulars of such joints should be submitted for the consideration of Government.

Ordinary chain and zigzag-riveted joints.

Iron plates and iron rivets or steel plates and steel rivets

$$\frac{100\ (p-d)}{p} = r$$

Iron plates and iron rivets.

$$\frac{100 \times d^2 \times \cdot7854 \times n \times C}{p \times T} = R$$

Steel plates and steel rivets.

$$\frac{100 \times 23 \times d^2 \times \cdot7854 \times n \times C \times F}{4\cdot5 \times 28 \times p \times T} = R$$

Given C, d, F, n, T, to find p so that r = R are equal.

Iron plates and iron rivets.

$$\frac{d^2 \times \cdot7854 \times n \times C}{T} + d = p$$

Steel plates and steel rivets:

$$\frac{23 \times d^2 \times \cdot7854 \times n \times C \times F}{4\cdot5 \times 28 \times T} + d = p$$

Given C, F, n, T, r, to find p and d

Iron plates and iron rivets:

$$\frac{r \times T}{(100 - r) \times \cdot7854 \times n \times C} = d$$

$$\frac{100 \times r \times T}{(100 - r)^2 \times \cdot7854 \times n \times c} = p$$

Steel plates and steel rivets.

$$\frac{4\cdot5 \times 28 \times r \times T}{23 \times (100 - r) \times \cdot7854 \times n \times C \times F} = d$$

$$\frac{100 \times 4\cdot5 \times 28 \times r \times T}{23 \times (100 - r)^2 \times \cdot7854 \times n \times C \times F} = p$$

Iron plates and iron rivets or steel plates and steel rivets when d is found first, then :

$$\frac{100\,d}{100 - r} = p$$

Butt straps.

Iron plates and iron butt-straps or steel plates and steel butt-straps.

Double butt-straps: $\frac{5 \times T}{8} = T_1$,

Single butt-straps : $\frac{9 \times T}{8} = T_1$,

For distance between Rows of Rivets, etc.

Iron and steel: $\frac{3 \times d}{2} = E$.

Chain-riveted joints (Figs. 2, 4, 6, 9, 11) not less than:
$2 \times d = V$

See note at the end.

Zigzag-riveted joints (Figs. 3, 5, 7, 10, 12)

$$\frac{\sqrt{(11\,p + 4\,d)\,(p + 4\,d)}}{10} = V$$

Diagonal pitch (figs. 3, 5, 7, 10, 12)

$$\frac{6\,p + 4\,d}{10} = p\,D$$

To determine the working pressure

$$\frac{S \times \% \times 2\,T}{F \times D} = B$$

Chain and Zigzag-riveted joints in which every alternate rivet has been omitted in the outer row or in the outer and the inner rows such as are shown by the following sketches :—

Iron plates and iron rivets or steel plates and steel rivets:

$$\frac{100\,(p - d)}{p} = r$$

Iron plates and iron rivets.

$$\frac{100 \times d^2 \times {\cdot}7854 \times n \times C}{p \times T} = R$$

Steel plates and steel rivets:

$$\frac{100 \times 23 \times d^2 \times {\cdot}7854 \times n \times C \times F}{4{\cdot}5 \times 28 \times p \times T} = R$$

Iron plates and iron rivets or steel plates and steel rivets:

$$\frac{100\,(P - 2\,d)}{P} + \frac{R}{N} = R_1$$

Where the number of rivets in the inner row is double the number in the outer row—

Iron plates and iron butt-straps or steel plates butt-straps—

Double butt-straps

$$\frac{5 \times T\,(p - d)}{8 \times (p - 2\,d)} = T_1$$

Single butt-straps:

$$\frac{9 \times T\,(p - d)}{8 \times (p - 2\,d)} = T_1$$

When the number of rivets in the inner row is the same as in the outer row.

Double butt-straps.

$$\frac{5 \times T}{8} = T_1$$

Single butt-straps.

$$\frac{9 \times T}{8} = T_1$$

For distance between Rows of Rivets, etc.

Iron and Steel:

$$\frac{3 \times d}{2} = E$$

Chain-riveted joints (Figs. 13, 14, 15, 19)

$$\left.\begin{array}{l} \dfrac{\sqrt{(11\,p + 4d)\,(p + 4d)}}{10} = V \\ \text{or } 2 \times d = V \end{array}\right\}$$

The greater of these two values of V to be used see note at the end.

For joint K (Fig. 15)

$2 \times d = V_1$ See note at the end

Zigzag-riveted joints (Figs. 16, 17, 18, 20)

$$\sqrt{(\tfrac{11}{20} p + d)\ (\tfrac{1}{20} p + d)}$$

Diagonal pitch (Figs. 16, 17, 18, 20)

$$\tfrac{3}{10} p + d = p\ D$$

For joint J (Fig. 18)

$$\sqrt{\frac{(11\ p + 8\ d)\ (p + 8\ d)}{20}} = V_1$$

Diagonal pitch (Fig. 18)

$$\frac{3\ p + 4\ d}{10} = P_D$$

To determine the working pressure

$$\frac{S \times \% \times 2\ T}{F \times D} = B$$

Note.—The minimum value of V or V_1 for chain-riveted joints is given as 2 d, but $\frac{4\,d + 1}{2}$ is more desirable.

Maximum pitches for riveted joints.

T = thickness of plate in inches.

P = maximum pitch of rivets in inches provided it does not exceed 10 inches.

C = constant applicable from the following table:—

Number of rivets in one pitch	Constants for lap joints	Constants for double butt strap joints
1	1·31	1·75
2	2·62	3·50
3	3·47	4·63
4	4·14	5·52
5	...	6·00

$$(C \times T) + 1\tfrac{5}{8} = p.$$

When the work is first class, such pitches may be adopted so far as safety is concerned, yet in some cases it may be well not to adopt the greatest pitch found by the formula. The maximum pitch should not, however, exceed 10 inches with the thickest plates for boiler shells. If in any case the pitch is found to exceed that arrived at by the foregoing formula, for the particular description of joint and thickness of plate, such pitches should not be passed, but in all cases reported to Government.

No. R. 2076—*L. S.* 12-27-3, *dated* 22*nd*—23*rd September* 1927.

It is notified for general information that under Section 1 (2) of Record of Rights Regulation No. X of 1927, Government are pleased to direct that the provisions of the said Regulation shall be extended to all Government villages and settled Inam Villages of Bangalore Taluk, with effect from 1st October 1927.

2. The Record is intended to check litigation in regard to land and to facilitate its disposal by the Courts, to reduce unnecessary expenditure by the raiyats in executing and registering documents and to protect them against fraud and fabrication of false claims. It will also be of assistance to Government as well as the raiyats in the distribution of assessment among the various hissedars, the grant of Takavi and Land Improvement Loans and the grant of suspension or remission of Land Revenue.

3. To facilitate the accurate preparation of the Record of Rights, the list of "Hisses" will first be prepared by the Shanbhogs to the best of their information in a prescribed form and every case will be duly investigated by a special Shekdar. There will then be a check of the list by the Amildar or other officer authorised by the Deputy Commissioner in this behalf. Occupants and persons interested in the land are required to furnish every information that may be within their knowledge to the investigating officers in order to ensure accuracy in the preparation of this Record which will form the basis of the future Record of Rights.

4. All persons interested in land are required to render every reasonable assistance of officers of the Survey Department who will measure and conduct enquiries in cases to disputed boundary lines between hisses in the field, after giving the prescribed notice.

5. The attention of the public is invited to the provisions of Section 7 of the Record of Rights Regulation requiring them on reqvisition by a Revenue Officer engaged in compiling or revising the Record of Rights to furnish or produce information and documents needed for correct compilation or revision thereof within one month from the date of such requisition. Failure to comply with this requisition and secure registration of their rights will render occupants and holders of interests in land liable to a fine not exceeding Rs. 5 (recoverable as an arrear of land revenue) besides depriving them of the several advantages enumerated above. The officer to whom any information is furnished, or before whom any document is produced in accordance with the requisition will give a written acknowledgment therefor in the form prescribed to the person furnishing or producing the same and shall endorse on any such document, before returning it to him, a note under his signature stating the fact of its production and the date thereof.

By Order,
N. MADHAVA RAO,
Chief Secretary to Govcrnmet.

58

APP. F. VI. Gl.]

SUBJECT..

....

....

Section I&C
File No. 78 M
Serial No. 18

Diary No. of letter replied to ....

No. D 2472

General and Revenue Secretariat
( )
the 192

To

The Secy. Bd. of I&C

Date of issue 8/9/27

Sir

Signed by M P H K.

I am directed to state that Govt. would be glad to have the views of the Bd. of I&C on the draft rules ~~under the~~ framed by the Dir. of I&C Regulation (No. III 1920) to provide for the inspection & management of Steam Boilers & prime Movers in Mysore, ~~Sent by the Dir. of I&C (Late line~~

I h. etc

5.9.27
~~Dev~~. Secy.

List of enclosures..............................

MKR
3.9.27

Copied by..............................

Examined by. ....

over

I believe this has been sent to the Govt. Gazette. Compiler; copies after it is in type
Get 50 copies.
W 23-9-27

Fr 2519.

59

No. 199.

Board of Industries & Commerce,

Bangalore, dated....22nd...September...1927.

2696

GEN. & REV. SECRETARIAT
24 SEP. 1927
DEVELOPMENT BRANCH.

From

R. ANANTASUBRAMANYAM, Esq., B.A., B.L.,
SECRETARY, BOARD OF INDUSTRIES AND COMMERCE,
BANGALORE.

75 copies have already been called for & the copies received by the Bd. will be sent on receipt of the same from the Press.
Place in the file
24.9.27

To

N. Rama Rao, Esq., B.A., B.L.,
Secretary to Government of Mysore,
Development Departments.

Sir,

With reference to your letter No. D. 2472/ I & C 78-24-18 dated 8th instant calling for the views of the Board on the draft rules framed by the Director of Industries and Commerce under the Regulation (No. III of 1920) to provide for the inspection and management of Steam Boilers and Prime Movers in Mysore, I am directed to state that 30 copies of the draft rules may kindly be caused to be sent to this Office for circulation among the members of the Board. The matter may kindly be treated as urgent.

I have the honour to be,
Sir,
Your most obedient servant,

R Anantasubramanyam

Secretary.

Thirty copies were sent to the Secy. B. of I & C

60

Issue & Submit

PP. F. VI. Gl.]

UBJECT..

Section I, e

File No.

Serial No.

Diary No. of letter replied to ....

No. D.3286 Dt 24/9/27

General and Revenue Secretariat
( )
the *192*

To

B. Puttaiya Esq. B.A.

of issue 24-9-27

ed by M K [illegible]

~~Dear Sir~~

Please refer to the notification no. D.2244 / Dt 78-24. 17 d 22nd Sept. 1927 directing the publication of the draft rules under the Regulation for the inspection & management of Steam boilers & Prime Movers in Mysore & calling for objections & suggestions from the public thereon before the 15th Oct. 1927. Govt. note with concern that the draft rules have not so far appeared in the Gazette, more so as the notice. I am desired ~~to~~ observe that ~~the delay in~~ what delays the

enclosures..........

by..........

d by ....

over

publication of the rules is not [illegible] ~~satisfactory~~ and ~~to~~ request you ~~to~~ kindly see that they are published in the next ~~gazette~~ issue of the Gazette without fail as the notice given thereof to the public is very short, and as there will also be no issue of the gazette during the ensuing Dasara Holidays.

Seventy five (~~Spare~~ 75). Spare copies of the draft rules may also be kindly sent to the Sectt. for refce.

~~Dated 23.9.67~~

Y.S.
D.I.
24/9/67

23.9.67

61

P. F. VI. Gl]

SUBJECT..

Diary No. of letter replied to..........................

Section Irr

File No. 78-24.

Serial No.

No. D 5200.

General and Revenue Secretariat

( )

the 192

To The Supdt., Govt. Print

Date of issue 16-11-27

Dear Sir

May I ~~[illegible]~~ request you to kindly return the manuscript draft rules of inspection under the ~~Regulation~~ Steam Boilers & Prime Movers Regn., sent to you in original for being published in the Gazette?

Yrs.

VS

12.11.27

Signed by Mr P.H.K.A.

Dft. Sub. for appl.

12.11.27

Issue

VS

12.11.27

12.11.27

List of enclosures...

Copied by ....

25 NOV. 1927

DEVELOPMENT BRANCH

Examined by ....

over

D. O. No. 733

B. PUTTAIYA, Esq., B.A.,
Compiler.

MYSORE GAZETTE OFFICE,
Bangalore dated, 21 - 12 - 1927

30 DEC 1927
DEVELOPMENT BRANCH.

D 5465

Dear Sir,

With reference to your D. O. No: D. 5200/I.&.C. 78-24, dated 16th ultimo, may I inform you that the manuscript draft rules under the Inspection of steam boilers and prime movers regulation were sent to the Director of Industries & Commerce along with proofs for approval.

Rep. [illegible]
WP
31/12

The Director of Industries & Commerce who was addressed in the matter says that the manuscripts were returned to this office with the proofs, but they are not now forthcoming in this office.

Yours sincerely,
B. Puttaiya

V. Vedavyasacharya, Esq., B.A.,
Assistant Secretary to Government,
General & Revenue Secretariat.

K8

NOTE—Contn. sheet.

The dft. rules sent by the Dir. of I&C was sent in original ~~to the press~~ for being printed (as it was too bulky for being typed in time to enable its early publication in the Gazette) but it has been mislaid either in the press or in the Dir's office. Printed copies of the dft. rules are however available.

Sub. for perusal

[illegible]
16.2.28.

Were they published in the Gazette after all?

WP
17/2

The rules have been ~~issued~~ published in the Gazette of the 29th Sept. 27 (vide [illegible])

[illegible]
13.3.28

I presume no further action is necessary

[illegible]
7.3.28

WD 0324—GPB—60,000—24-5-27

5465 63

App. F. III—2]

General and Revenue Secretariat.

File No. of 192

Serial No.

on this file. Please verify.

20/3

NOTE—Contn. sheet

I & C 78-24-19

Board of Industries & Commerce,

No. 1001 15 3 28
Enc. 1

Bangalore, dated 14th March 1928.
15

From

R. ANANTASUBRAMANYAM, Esq., B.A., B.L.,
SECRETARY, BOARD OF INDUSTRIES AND COMMERCE,
BANGALORE.

GEN. & REV. SECRETARIAT
DEVELOPMENT BRANCH
15 MAR 1928

D-7830

To

N. Rama Rao, Esq., B.A., B.L.,
Secretary to Government,
Development Departments, Bangalore.

Sir,

With reference to your letter No. D. 2472/ I & C 78-24-18 dated 8th September 1927 calling for the views of the Board on the draft Rules framed by the Director of Industries and Commerce under the Regulation(No. III 1920) to provide for the inspection and management of Steam Boilers and Prime Movers in Mysore, I am directed to state that a Sub Committee was appointed to go through the rules in detail and to submit a report for the consideration of the Board. The Report of the Sub Committee was placed before the Board at their Meeting held on 6th March 1928. The Board, as observed by the Sub Committee, are of opinion that the draft rules recently published deal mostly with technical matters relating to the strength of Boilers and rates etc and are more or less of the nature of instructions to Boiler Inspectors as to how to carry on their work and it is therefore necessary to prepare rules covering all the points referred to in Section 24 of the Regulation. The Board considered the draft rules prepared by the Sub Committee and were of opinion that the rules framed by the Sub Committee might be accepted except the provision regarding the issue of certificates of the 4th Class mentioned in rule 24 as it would be a hardship to owners of small internal combustion engines. The Board was of opinion that this ~~px~~ provision might therefore be deleted. A copy of the Report of the Sub Committee is sent enclosed for your information.

I have the honour to be,
Sir,
Your most obedient servant,

R. Anantasubramanyam

Secretary.

65

BOARD OF INDUSTRIES AND COMMERCE.

Proceedings of the Meeting of the Sub-Committee appointed to consider the Draft Rules framed for the Inspection of Steam Boilers and Prime Movers held on Monday the 19th December 1927, at 9-30 a.m., in the Office of the Director of Industries and Commerce.

PRESENT.

1. C. Ranganatha Rao Sahib, Esq., B.A., B.L., *Director of Industries and Commerce* (Convener).
2. B. Sitaramachar, Esq., B.E.
3. H. K. Ramaiengar, Esq., M.A. (Hons.) (Co-opted).
4. R. Ananthasubramanyam, Esq. B.A., B.L. (Secretary).

ABSENT.

1. M. Ramachandra Rao Scindia, Esq.
2. E. J. Kelly, Esq. (Co-opted).

The Convener explained that in British India the Boiler Regulation was now an All-India Regulation and that Provincial Governments were authorised to frame rules suitable for the locality under the Regulation. The Regulation in force in Mysore was passed in the year 1920, but it has been inoperative as no rules have been issued under it. The draft rules recently published deal mostly with technical matters relating to the strength of Boiler and rates, etc., and are more or less of the nature of instructions to Boiler Inspectors as to how to carry on their work. It is necessary to prepare rules covering all the points referred to in section 24 of the Regulation. A copy of the draft rules as finally approved by the Sub-Committee is enclosed. It was decided that the draft rules may be submitted to the Industries and Commerce Board for consideration.

C. Ranganatha Rao Sahib,
Convener.

RULES.

PRELIMINARY.

1. These rules may be called the Mysore Boiler Rules, 1927.

2. In these rules unless there is anything repugnant in the subject or context :—

(*a*) The Regulation means the Regulation to provide for the Inspection and Management of Steam-boilers and Prime-movers in Mysore No. III of 1920.

(*b*) Section means a section of the said Regulation.

Qualifications, powers and duties of Inspectors, Section 24 (a).

3. The Inspector shall be a qualified Mechanical Engineer with practical experience of Boilers, Prime-movers and Machinery.

4. The Inspector shall work under the administrative control of the Director of Industries and Commerce or any other authority that may be appointed by Government in this behalf. The Inspector shall submit to him

(*a*) An annual report on the administration of the Regulation within the area in his jurisdiction.

(*b*) And such other Reports and Returns as may be called for.

5. The Inspector shall keep the following records :—

(*a*) A Register of Receipts of examination fees.

(*b*) A book containing forms of licenses in triplicates.

(*c*) A Register of Boilers in the following form :—

Name and address of owner	Place where boiler is situated	Register number and description of the boiler and its age	Nominal horse power	When where and by whom the boiler was made	When and where the boiler was last repaired	Date of grant of license	Maximum pressure at which boiler may be worked	Time for which the license is to be in force	Remarks
1	2	3	4	5	6	7	8	9	10

(*d*) A memorandum of Inspection Book containing a detailed account of every examination of boilers made by him.

(*e*) A diary of work done by him from day to day.

(*f*) A Register of Licenses suspended or revoked under section 12.

(*g*) A Register showing the result of appeals presented under section 13.

(*h*) A Register of Accidents.

(*i*) A Rgister of Certificates of competency and of service.

6. The main duties of the Inspector are :—

1. The Inspection and Examination of Boilers and Prime-movers.

2. He shall search for unregistered or unlicensed boilers during his tours of inspection and ascertain if licensed boilers are worked in accordance with the terms of their licenses.

Or prime-mover of the boiler 3. At the time of inspection, the Inspector should advise the owner and the person in charge of the boiler~~s~~ ~~and~~ or prime-mover~~s~~ on the~~ir~~ management and upkeep with special reference to the amount of cleaning required in view of the quality of water used. The Director of Industries and Commerce shall issue a set of instructions which should be hung up in each boiler room. or

7. The Inspector shall—

(*a*) enquire into all accidents to Steam Boilers and Prime-movers reported under section 11 and submit a report to the Director of Industries and Commerce,

(*b*) report cases of unreported accidents discovered at the time of inspection,

(*c*) take action for prosecution under the Regulation and for withdrawing or revoking, or suspending a license under section 12 of the Regulation.

Fees payable on account of Examination, Section 24 (b).

8. The Examination fees shall be paid in accordance with the following scale :—

							Rs.
1.	For the examination of each boiler not exceeding 10 horse power nominal					..	12
2.	Do	of exceeding	10 N.H.P.	but not	20 N.H.P.	...	16
3.	Do	do	20 ,,	,,	30 ,,	...	24
4.	Do	do	30 ,,	,,	50 ,,	...	32
5.	Do	do	50 ,,	horse power nominal		...	40

Examination for Certificates of Competency, Section 24 (c) and (d).

9. The Examiners for the conduct of examinations for the grant of Certificates of Competency and of service shall consist of the Director of Industries and Commerce in Mysore, the Professor of Mechanical Engineering, College of Engineering, Bangalore and one other person that may be appointed by Government from time to time.

10. The Examinations for Certificates of Competency shall be held at Bangalore twice a year and at intervals of not more than six months.

11. A candidate for examination for a Certificate of Competency shall pay a fee of Rs. 5.

12. A candidate who appears for examination and fails will, in no case, be entitled to a return of any portion of the fee paid by him. But the fee paid by a candidate who is not admitted to the examination will be returned to him, in full, on application, provided that in the event of a candidate being unavoidably absent from any examination for which he has paid a fee, it shall be in the discretion of the Director of Industries and Commerce to allow him to re appear at any examination held within one year of the first examination without a second payment.

13. Any candidate who appears for the first time and fails to pass the examination may appear at the next subsequent examination without a further fee. For every further examination at which he may be permitted to appear he shall be charged half the fee prescribed in rule 11.

14 Every applicant for examination shall make an application in the form shown in Appendix A. He shall duly fill in all the parts of the said form which are to be filled in by a candidate and shall sign the same in the presence of his employer or a Gazetted Officer in the service of Government. The applicant shall then send his application to the Director of Industries and Commerce not later than 30 days before the date fixed for examination. The application should be accompanied by—

(1) Testimonials of good character, sobriety and conduct.

(2) A challan or receipt for having remitted to the Government Treasury the prescribed fee.

(3) A letter stating the language in which he desires to be examined.

(4) The previous certificates, if any, issued to the applicant under these rules.

(5) Any other papers required by these rules on the printed form of application.

15. No applicant will be admitted to the examination whose testimonials as to sobriety and conduct are not in the opinion of the Director of Industries and Commerce trustworthy and satisfactory.

16. If there be sufficient reason to doubt the truth of any facts stated in any application or testimonial the application or testimonial may be rejected by the Director of Industries and Commerce. The original testimonials shall after the close of each examination be returned to the candidate who presented them if he applies for the same.

17. No candidate for a Certificate of Competency will be admitted to examination unless he produces satisfactory certificates stating that he completed a three years' course in the workshops of a recognised college or institute and during the period has received instructions in the management of engines and boilers.

18. To be entitled to a Certificate of Competency a candidate must satisfy the examiners that

(*a*) he fully understands the working and management of boilers, and all appurtenances usually attached thereto,

(*b*) he is able to explain the working of engines and their parts,

(*c*) he knows what ought to be done in case of the break-down of any portion of the machinery.

19. Every examination shall be of such a nature as to test the practical knowledge of the candidate and to ascertain his competency to manage engines and boilers.

20. The examination shall be conducted in writing and by *viva voce*, on such subjects and in such manner as the examiners may determine.

Examination for Certificates of Service.

21. An applicant for a certificate of service will be charged a fee of Rs. 3 in respect of his first application. For every subsequent application in respect of which the applicant is allowed to appear, the fee payable shall be levied as in rule 13.

22. Every applicant for examination for a certificate of service shall make an application in the form shown in Appendix A. The application should be made in the same manner as provided in rule 14. The application shall he accompanied by (a) Testimonials of good character, sobriety and conduct, (b) a challan or receipt for having remitted to the Government Treasury the prescribed fee, (c) a certificate to show that the applicant has served for a period of not less than three years in charge of a boiler or of a prime-mover or has worked as an apprentice under a person holding a Certificate of Competency or service continuously for a period of three years and (d) any other papers required by these rules or the printed form of application.

23. In order to ascertain that a candidate for a certificate of service is possessed of competent skill for the charge and management of a boiler or prime-mover, the examiners shall subject him to such practical examination as they in each case think fit.

24. Certificates of Competency and of service shall be in the form shown in the Appendix A 1 or to the like effect and will be of the following classes:—

Holders of certificates of the First Class will be deemed to be capable of being in charge of boilers attached to prime-movers of any horse power.

Holders of certificates of the Second Class will be deemed to be capable of being in charge of boilers attached to prime-movers exceeding 10 N. H. P. and not exceeding 100 N. H. P.

Holders of certificates of the Third Class will be deemed to be capable of having charge of boilers attached to prime-movers not exceeding 10 N. H. P.

~~Holders of certificates of the Fourth Class will be deemed to be capable of having charge of internal combustion engines.~~

Cancellation or suspension of certificates after inquiry.

25. (1) If the Director of Industries and Commerce has reason to believe that an enquiry should be made into any allegation of incompetence, drunkenness, misconduct or negligence on the part of any person holding a Certificate of a Competency or service, he shall make an enquiry. (2) The holder of the certificate shall on demand by the Director of Industries and Commerce forthwith place in his hands his certificate. (3) The enquiry shall be held in the presence of the person whose conduct forms the subject of the enquiry and he shall be given an opportunity of making any statement he may wish to make and of producing evidence in his defence...

The results of the enquiry should be reported to Government with such recommendations as he thinks fit.

Government may order the cancellation altogether of the certificate of the person whose conduct formed the subject of the enquiry or cancel the certificate for such period as they may determine.

General.

26. The register number communicated to the owner of a boiler under section 9 of this Regulation shall be permanently inscribed on the boiler.

The license to be issued by the District Magistrate under sub-section 5 of section 13 of the Regulation shall be in the form prescribed in Schedule A appended to the Regulation or in the form to the like effect. He shall forward a copy of the license issued by him to the Inspector.

28. Save as otherwise expressly provided in the Regulation, the provisions of the Regulation and the rules shall be applicable to boilers and prime-movers belonging to Government.

APPENDIX A.

Application for a Certificate of Competency or Service.

(A) Name, etc., of applicant

Name in full

Permanent Address

Date of birth

Place of birth District.

(B) Particulars of previous certificates

Number and date of certificate

Competency or service

Was there any suspension, or cancellation of certificate

If so

When

By whom

Why the certificate was cancelled or suspended

(C) Certificate now required

Competency or service

Class

Address to which it should be sent

(D) Did the applicant appear for the examination for the certificate now required at any time before.

Where and when did he appear for the examination.

Subjects in which he failed

(E) Declaration to be made by the applicant

I do hereby declare that the particulars contained in division (a), (b), (c), (d) and (f) of this form are correct and true to the best of my knowledge and belief; and that the papers enumerated in division (f) and sent with this form are true and genuine documents given and signed by persons whose names appear on them. I further declare that the statement (f) contains a true and correct account of the whole of my service without exception. I make this declaration conscientiously believing the same to be true.

Dated at this day of 192

Signed in the presence of

Signature of applicant.

Employer or Gazetted Officer.

Present Address.

Note.—Any person who makes, procures to be made or assists in making any false representation for the purpose of obtaining for himself or any person, a certificate of either competency or service will be prosecuted.

(F) Testimonials and statements of service

- Number

Where employed

H. P. of Engine

Description of the Factory

Service of applicant

(a) in what capacity

(b) date of commencement of service

(c) date of termination of service

Total time of service Years Months Days

Time for which certificates are now produced-

Time for which certificates are not now produced

APPENDIX A 1.

Certificate of Competency or Service

of class granted under the Mysore Boiler Regulation.

No.................................. Date.

....aged about years, residing at........... .... having satisfied the Board of Examiners appointed under the Mysore Boiler Regulation of his competency or practical skill to have charge of a boiler attached to prime movers of H. P, is granted under the rules framed under the said Regulation, this Certificate of Competency or service of class.

Dated at of

1.

2.

3.

4.

Board of Examiners.

On the reverse side of the certificate

Signature of the owner

Date and place of birth

Personal description and marks

Height without shoes

Thumb impression

N. B.—Duplicate of this certificate has been recorded in the Office of the Inspector of Boilers on day of

W D 1744—GPB—100—13-1-28

754

MYSORE ECONOMIC CONFERENCE * CENTRAL OFFICE
754
·1·28

73

Subject No 7

16 1 28

BOARD OF INDUSTRIES AND COMMERCE.

Proceedings of the Meeting of the Sub-Committee appointed to consider the Draft Rules framed for the Inspection of Steam Boilers and Prime Movers held on Monday the 19th December 1927, at 9-30 a.m., in the Office of the Director of Industries and Commerce.

PRESENT.

1. C. Ranganatha Rao Sahib, Esq., B.A., B.L.,
   Director of Industries and Commerce (Convener).
2. B. Sitaramachar, Esq., B.E.
3. H. K. Ramaiengar, Esq., M.A. (Hons.) (Co-opted).
4. R. Ananthasubramanyam, Esq. B.A., B.L. (Secretary).

ABSENT.

1. M. Ramachandra Rao Scindia, Esq.
2. E. J. Kelly, Esq. (Co-opted).

The Convener explained that in British India the Boiler Regulation was now an All-India Regulation and that Provincial Governments were authorised to frame rules suitable for the locality under the Regulation. The Regulation in force in Mysore was passed in the year 1920, but it has been inoperative as no rules have been issued under it. The draft rules recently published deal mostly with technical matters relating to the strength of Boiler and rates, etc., and are more or less of the nature of instructions to Boiler Inspectors as to how to carry on their work. It is necessary to prepare rules covering all the points referred to in section 24 of the Regulation. A copy of the draft rules as finally approved by the Sub-Committee is enclosed. It was decided that the draft rules may be submitted to the Industries and Commerce Board for consideration.

C. Ranganatha Rao Sahib,
Convener.

RULES.

PRELIMINARY.

1. These rules may be called the Mysore Boiler Rules, 1927. They shall apply to the whole of Mysore & shall come into effect from such date as may be notified by Govt.

2. In these rules unless there is anything repugnant in the subject or context :—

(a) The Regulation means the Regulation to provide for the Inspection and Management of Steam-boilers and Prime-movers in Mysore No. III of 1920.

(b) Section means a section of the said Regulation.

Qualifications, powers and duties of Inspectors, Section 24 (a).

3. The Inspector shall be a qualified Mechanical Engineer with practical experience of Boilers, Prime-movers and Machinery.

4. The Inspector shall work under the administrative control of the Director of Industries and Commerce or any other authority that may be appointed by Government in this behalf. The Inspector shall submit to him

(a) An annual report on the administration of the Regulation within the area in his jurisdiction.

(b) And such other Reports and Returns as may be called for.

5. The Inspector shall keep the following records :—

(a) A Register of Receipts of examination fees.

(b) A book containing forms of licenses in triplicates.

(c) A Register of Boilers in the following form :—

Name and address of owner	Place where boiler is situated	Register number and description of the boiler and its age	Nominal horse power	When, where and by whom the boiler was made	When and where the boiler was last repaired	Date of grant of license	Maximum pressure at which boiler may be worked	Time for which the license is to be in force	Remarks
1	2	3	4	5	6	7	8	9	10

(d) A memorandum of Inspection Book containing a detailed account of every examination of boilers made by him.

(e) A diary of work done by him from day to day.

(f) A Register of Licenses suspended or revoked under section 12.

(g) A Register showing the result of appeals presented under section 13.

(h) A Register of Accidents.

(i) A Rgister of Certificates of competency and of service.

6. The main duties of the Inspector, ~~are~~ as laid down in the Regn. are

~~1.~~ the Inspection and Examination of Boilers and Prime-movers.

~~2.~~ In addition to the above He shall search for unregistered or unlicensed boilers during his tours of inspection and ascertain if licensed boilers are worked in accordance with the terms of their licenses.

~~Inspections shall be carried out in accordance with the instructions given in the appendix attached to these rules.~~

The inspection & examination of boilers & prime movers. Inspections should be ~~carried~~ carried out in accordance with the instructions issued by Govt. by Notification in this behalf.

3. At the time of inspection, the Inspector should advise the owner and the person in charge of the boilers and prime-movers on their management and upkeep with special reference to the amount of cleaning required in view of the quality of water used. The Director of Industries and Commerce shall issue a set of instructions which should be hung up in each boiler room.

7. The Inspector shall—

(*a*) enquire into all accidents to Steam Boilers and Prime-movers reported under section 11 and submit a report to the Director of Industries and Commerce,

(*b*) report cases of unreported accidents discovered at the time of inspection,

(*c*) take action for prosecution under the Regulation and for withdrawing or revoking, or suspending a license under section 12 of the Regulation.

8. The Dir. of I&C is authorised ~~to~~ to revoke or suspend after due enquiry any license granted under the Regulation by the Inspector.

Fees payable on account of Examination, Section 24 (b).

9. The Examination fees shall be paid in accordance with the following scale :—

		Rs.
1.	For the examination of each boiler not exceeding 10 horse power nominal ..	12
2.	Do of exceeding 10 N.H.P. but not 20 N.H.P. ...	16
3.	Do do 20 „ „ 30 „ ...	24
4.	Do do 30 „ „ 50 „ ...	32
5.	Do do 50 „ horse power nominal...	40

~~The fees shall be paid into Govt. Treasury and the receipt sent to the Inspector.~~

Examination for Certificates of Competency, Section 24 (c) and (d).

10. The Examiners for the conduct of examinations for the grant of Certificates of Competency and of service shall consist of the Director of Industries and Commerce in Mysore, the Professor of Mechanical Engineering, College of Engineering, Bangalore and one other person that may be appointed by Government from time to time.

11. The Examinations for Certificates of Competency shall be held at Bangalore twice a year and at intervals of not more than six months.

12. A candidate for examination for a Certificate of Competency shall pay a fee of Rs. 5.

13. A candidate who appears for examination and fails will, in no case, be entitled to a return of any portion of the fee paid by him. But the fee paid by a candidate who is not admitted to the examination will be returned to him, in full, on application. ~~provided that in the event of a candidate being unavoidably absent from any examination for which he has paid a fee, it shall be~~ may ~~in the discretion of the Director of Industries and Commerce, to allow him to is appear at any examination held within one year of the first examination without a second payment.~~ ~~for which the candidate had paid the fee~~

~~without~~ any fresh payment

14. Any candidate who appears for the first time and fails to pass the examination may appear at the next subsequent examination without a further fee. For every further examination at which he may be permitted to appear he shall be charged half the fee prescribed in rule 12.

15. Every applicant for examination shall make an application in the form shown in Appendix A. He shall duly fill in all the parts of the said form which are to be filled in by a candidate and shall sign the same in the presence of his employer or a Gazetted Officer in the service of Government. The applicant shall then send his application to the Director of Industries and Commerce not later than 30 days before the date fixed for examination. The application should be accompanied by—

(1) Testimonials of good character, sobriety and conduct.

(2) A challan or receipt for having remitted to the Government Treasury the prescribed fee.

(3) A letter stating the language in which he desires to be examined.

(4) The previous certificates, if any, issued to the applicant under these rules.

(5) Any other papers required by these rules on the printed form of application.

In the event of a candidate being unavoidably absent from any examination for which he has paid a fee, the Director of Industries & Commerce may in his discretion allow him to appear without any fresh payment at any subsequent examination held within one year of the examination for which the candidate had paid the fee.

16. No applicant will be admitted to the examination whose testimonials as to character, sobriety and conduct are not in the opinion of the Director of Industries and Commerce trustworthy and satisfactory.

17. If there be sufficient reason to doubt the truth of any facts stated in any application or testimonial the application or testimonial may be rejected by the Director of Industries and Commerce. The original testimonials shall after the close of each examination be returned to the candidate who presented them if he applies for the same.

18. No candidate for a Certificate of Campetency will be admitted to examination unless he produces satisfactory certificates stating that he completed a three years' course in the workshops of a recognised college or institute and during the period has received instructions in the management of engines and boilers.

19. To be entitled to a Certificate of Competency a candidate must satisfy the examiners that

(*a*) he fully understands the working and management of boilers, and all appurtenances usually attached thereto,

(*b*) he is able to explain the working of engines and their parts,

(*c*) he knows what ought to be done in case of the break-down of any portion of the machinery.

20. Every examination shall be of such a nature as to test the practical knowledge of the candidate and to ascertain his competency to manage engines and boilers.

21. The examination shall be conducted in writing and by *viva voce*, on such subjects and in such manner as the examiners may determine.

Examination for Certificates of Service.

22. An applicant for a certificate or service will be charged a fee of Rs. 3 in respect of his first application. ~~For every subsequent application in respect of which the applicant is allowed to appear, the fee payable shall be levied as in rule 13.~~ the provisions of Rule 13 shall apply.

23. Every applicant for examination for a certificate of service shall make an application in the form shown in Appendix A. The application should be made in the same manner as provided in rule 14. The application shall he accompanied by (a) Testimonials of good character, sobriety and conduct, (b) a challan or receipt for having remitted to the Government Treasury the prescribed fee, (c) a certificate to show that the applicant has served for a period of not less than three years in charge of a boiler or of a prime-mover or has worked as an apprentice under a person holding a Certificate of Competency or service continuously for a period of three years and (d) any other papers required by these rules or the printed form of application.

24. In order to ascertain that a candidate for a certificate of service is possessed of competent skill for the charge and management of a boiler or prime-mover, the examiners shall subject him to such practical examination as they in each case think fit.

25. Certificates of Competency and of service shall be in the form shown in the Appendix A 1 or to the like effect and will be of the following classes:—

Holders of certificates of the First Class will be deemed to be capable of being in charge of boilers attached to prime-movers of any horse power.

Holders of certificates of the Second Class will be deemed to be capable of being in charge of boilers attached to prime-movers exceeding 10 N. H. P. and not exceeding 100 N. H. P.

Holders of certificates of the Third Class will be deemed to be capable of having charge of boilers attached to prime-movers not exceeding 10 N. H. P.

~~Holders of certificates of the Fourth Class will be deemed to be capable of having charge of internal combustion engines.~~

In case he fails to pass in the Examination he may be permitted to appear at the next subsequent examination without a fee; but if he should fail again then for every subsequent application in respect of the same application for which he is allowed to appear, the provisions of Rule 14 shall apply

Cancellation or suspension of certificates after inquiry.

26 (1) If the Director of Industries and Commerce has reason to believe that an enquiry should be made into any allegation of incompetence, drunkenness, misconduct or negligence on the part of any person holding a Certificate of a Competency or service, he shall make an enquiry. (2) The holder of the certificate shall on demand by the Director of Industries and Commerce forthwith place in his hands his certificate. (3) The enquiry shall be held in the presence of the person whose conduct forms the subject of the enquiry and he shall be given an opportunity of making any statement he may wish to make and of producing evidence in his defence.

The results of the enquiry should be reported to Government with such recommendations as he thinks fit.

Government may order the cancellation altogether of the certificate of the person whose conduct formed the subject of the enquiry or cancel the certificate for such period as they may determine.

General.

27. (1) On granting a license under section 7(1) the Inspector shall register the boiler in the form as per Appendix B.

~~26. The register number communicated to the owner of a boiler under section 9 of this Regulation shall be permanently inscribed on the boiler.~~

(2) The license to be issued by the District Magistrate under sub-section 5 of section 13 of the Regulation shall be in the form prescribed in Schedule A appended to the Regulation or in the form to the like effect. He shall forward a copy of the license issued by him to the Inspector.

29. Save as otherwise expressly provided in the Regulation, the provisions of the Regulation and the rules shall be applicable to boilers and prime-movers belonging to Government.

28 (i) The District Magistrate shall, in hearing every appeal, be assisted by two Assessors who shall be fully qualified Mechanical Engineers & members of a panel of Assessors appointed by Govt. by notification in this behalf.

(ii) The Appellate Court shall have full powers to secure the attendance of witnesses & to make local enquiries

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APPENDIX A.

APPLICATION FOR A CERTIFICATE OF COMPETENCY OR SERVICE.

(A) Name, etc., of applicant

Name in full

Permanent Address

Date of birth

Place of birth District.

(B) Particulars of previous certificates

Number and date of certificate

Competency or service

Was there any suspension, or cancellation of certificate

If so

When

By whom

Why the certificate was cancelled or suspended

(C) Certificate now required

Competency or service

Class

Address to which it should be sent

(D) Did the applicant appear for the examination for the certificate now required at any time before.

Where and when did he appear for the examination.

Subjects in which he failed

(E) Declaration to be made by the applicant

I do hereby declare that the particulars contained in division (a), (b), (c), (d) and (f) of this form are correct and true to the best of my knowledge and belief; and that the papers enumerated in division (f) and sent with this form are true and genuine documents given and signed by persons whose names appear on them. I further declare that the statement (f) contains a true and correct account of the whole of my service without exception. I make this declaration conscientiously believing the same to be true.

Dated at this day of 192 .

Signed in the presence of

Signature of applicant.

Employer or Gazetted Officer.

Present Address.

Note.— Any person who makes, procures to be made or assists in making any false representation for the purpose of obtaining for himself or any person, a certificate of either competency or service will be prosecuted.

A. P. F. VI. Gl]

Issue & Submit.

SUBJECT...

80

Section

File No.

Serial No.

D.O. No. D. 10938

Diary No. of letter replied to..........................

General and Revenue Secretariat

(   )

the   192

To ......The Dir. of Ik.........

Date of issue......13/4/28

~~Dear~~ Sir

Signed by Mr. N. Rama Rao

D —

I am ~~directed~~ desired to invite attention ~~to~~ this office letter no. D.2552/Ik 78-24-16 of 8.10.26 calling for a revised set of draft Rules under the Boilers Regulation in the light of the remarks of the Law Dept. & ~~to~~ your letter of no. C₂-853-27 of 20th Aug. 27 stating that you would submit revised rules by the end of Aug. 1927 and ~~to~~ state that the revised rules have not been

List of enclosures.......................................

Copied by ....

Examined by ....

over

recd. from you in spite of reminders. I am to request you ~~to~~ expedite the Rules.

~~and also embody in them the draft rules approved by the Bd. of Dir.~~ D/.

Y.S.

11.4.28.

11/4/28

[illegible]

Dc 78-24-20.

81

TELEGRAPHIC ADDRESS :– "INDUSCOM."

In reply please refer to
No. C2.853/27-28

GOVERNMENT OF MYSORE.

DEPARTMENT OF INDUSTRIES AND COMMERCE.

OFFICE OF THE DIRECTOR,

Report please urgently

Urgent

Dated Bangalore, the 24th April 25 *1928*.

FROM

26/4/28

26/4

C. RANGANATHA RAO SAHIB, ESQ., B.A., B.L.,
Director of Industries and Commerce in Mysore,
(Bangalore India)

GEN. & REV. SECRETARIAT
26 APR. 1928
DEVELOPMENT BRANCH
8986

To

N. Rama Rao, Esq., B.A., B.L.,
Secretary to the Government of Mysore,
Development Departments, Bangalore.

SIR,

With reference to your D.O.letter No.D.10938 dated 12th April 1928 requesting the submission of a draft of the revised Rules – – under the Boilers Regulation, I have the honor to state that as reported in my D.O.letter No.C2.1192/27-28 the sub-committee of which I was the Convener submitted to the Industries and Commerce Board a draft of the revised rules under Regulation III of 1920. The report of the sub-committee and the draft rules prepared by it were considered by the Board of Industries and Commerce at their meeting held on the 6th March 1928 and approved with a slight alteration. I request that the rules as finally modified by the Industries and Commerce Board may be approved by Government. The Secretary to the Industries and Commerce Board has addressed Government on the matter in his letter No.1001 dated 15th March 1928.

I have the honor to be,
Sir,
Your most obedient servant,

C Ranganatha Rao Sahib
Director.

MSR.

Appendix F G—1

82

SUBJECT..

Section I.C.
File No. 78/24
Serial No. 21

Diary No. of letter replied to..

No. D 8752/Ind.

General and Revenue Secretariat
( )
the 192

To
The Dir. of Ik.

Date of issue 11/2/29

Sir

I am directed to forward herewith ~~for consideration~~ a copy of the L. R's opinion on the draft rules ~~frame~~ under the Boilers Regn. submitted by the Bd. of Ik. and to request you ~~kindly~~ to be so good as to consider the suggestions contained therein & ~~[illegible]~~ ~~[illegible] a revised set of~~ rules ~~[illegible] the covering~~ also to frame and submit rules on the points referred to in para III of the L.R's note ~~on which~~ — I have

Signed by Mr C. P. Novanka
(R. to be typed)

List of enclosures..

Copied by..

Examined by..

over

Ilch
Cen 6.2.29

6.2.29

WD 0399—GPB—20,000—18-9-28

83

TELEGRAPHIC ADDRESS :— " INDUSCOM. "

GOVERNMENT OF MYSORE.

DEPARTMENT OF INDUSTRIES AND COMMERCE.

OFFICE OF THE DIRECTOR,

In reply please refer to
No. C2-853/27-28

SECRETARIAT
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8 MAR
DEVELOPMENT BRANCH

Engr. Two

W 7/3/29

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Dated, Bangalore, 4th March 1929.

FROM

C. RANGANATHA RAO SAHIB, ESQ., B.A., B.L.,
Director of Industries and Commerce in Mysore,
(Bangalore, India.)

To

9 C. 78-24-22

N. Rama Rao, Esq., B.A., B.L.,
Secretary to the Government of Mysore,
Development Departments, Bangalore.

SIR,

With reference to your letter No. D. 8152/I & C 78-24-21 of the 11th February 1929, I have the honor to enclose herewith copy of a note giving my views on the notes prepared by the Legal Remembrancer. I also enclose a revised copy of the draft rules for the consideration of Government.

I have the honor to be,
Sir,
Your most obedient servant,
C Ranganatha Rao Sahib
Director.

CRS-USC)

Note on the alterations in the draft rules under the Boiler Regulation proposed by the Legal Remembrancer

***

Rule 6 - I do not think it is desirable that the instructions to the Inspectors should be attached as an Appendix to the Rules. I am of opinion that the instructions may be issued by a notification separately in this behalf. I therefore propose -- that clause 1 may be as follows : -

"The main duties of the Inspector as laid down "in the Regulation are the inspection and examination of Boilers and Prime Movers. Such "inspections should be carried out in accord"ance with the instructions issued by Government "by notification in this behalf."

I agree to the addition of words "In addition to the above" at the beginning of Clause (2).

Rule 8 - I do not think it is necessary to make it clear in the rule as to how the fees should be paid. Executive instructions may be issued to the Inspectors in regard to this matter. As under the Petroleum Regulation, the fees may be required to be credited to the Government Treasury and a receipt from the Treasury Officer required to be given to the Inspector.

Rule 12 - I agree to the change proposed by the Legal Remembrancer.

Rule 15 - The change proposed by the Legal Remembrancer will give ~~have~~ no meaning. I would therefore suggest that the words "of character" should be inserted after the word "sobriety" in line 2.

Rule 21 - I agree to the alteration proposed by the Legal Remembrancer.

In regard to the proposals of the Legal Remembrancer that rules should be framed in respect of other matters referred to in Para III of his letter, I beg to note my views as follows : -

1) It is not necessary to specify the engines the boilers attached to which are exempt from the operations of the -- regulation. This is done in Section I Clause (3) of the Regulation itself. The Clause authorises Government to exempt boilers used in any vehicle to be notified by Government separately. This power may be exercised by Government as necessity arises. There does not appear to be any need to issue any rules on that matter at once.

2) & 6). The following sentence may be added at the end of the present Rule (1) and included in the same rule: -

> "They shall apply to the whole of Mysore and
> "shall come into effect commencing from 1st
> " Jany. 1930".

The Government may fix by notification under Section 4 of the Regulation that no boiler shall be used unless a license -- authorising its use has been granted commencing from 1st Jany 1930. The rules under Regulation may be published immediately, so that six months time may be granted to the public before the rules come into force.

3). The present rule 26 is not necessary as the regulation provides for the register No. of the boiler being permanently inscribed on it. This will be rule 27 under the new Rules and will run as follows - "On granting a license under Section 7, the Inspector shall register the boiler in the form as per Appendix "B"". A copy of the form in use in British India is enclosed and may be shown as Appendix B to the Rules.

4). A new rule may be framed as follows - "The Director of Industries and Commerce is authorised to revoke or suspend after due inquiry any license granted under the Regulation by the Inspector ~~after due enquiry~~".

5) A new Rule, Rule 28, may be framed as follows : -

i) The District Magistrate shall, in hearing every appeal, be assisted by two assessors who shall be fully qualified Mechanical Engineers and members of a panel of assessors appointed by Government by notification in this behalf.

ii) The Appellate Court shall have full powers to secure the attendance of witnesses and to make local enquiries.

A copy of the rules incorporating the changes mentioned above, is enclosed herewith.

Ranganatha Rao Sahib
Director.

CRS-USC)

4/3

Sg

within one year of the examination for which the candidate had paid the fee.

Rule 15. - Add the word "character" between the words "to" and "Sobriety" in line 2.

Rule 21 - The second sentence may be as follows:-

"For every subsequent application in respect of which the applicant is allowed to appear the provisions of rule 13 shall apply."

III. In addition to the rules drafted, the Regulation contemplates rules or notifications on the following additional - points:-

(1) Specifying vehicles or classes of vehicles, the - boilers used for which are exepmt from the operation of the Regulation (Section 1 Cl. 3)

(2) Notifying the day after which use of unlicensed boilers is prohibited (section 4)

(3) Prescribing the form in which the boiler has to be registered (Section 9).

(4) Specifying the person, authorised to revoke or suspend the license granted by the Inspector (Section 12).

(5) Directing the manner in which the District Magistrate has to summon assessors (Section 13 Cl. 4).

(6) Notifying the date from which and the places in which the Regulation is to be in force (Section 1 Cl. 2).

Rules may also be made on the above points and the whole matter published as required by Section 24.

--:0:--

For Secretary to Government,
Development Departments.

BRS/2.

G. R. S. G/33]

GENERAL AND REVENUE SECRETARIAT.

(*Continuation sheet draft form.*)

D/10387 of 6/4/29

Notification

In supersession of Govt. Notification No. D. 2244 – D.&C. 78-24-17 of 2nd September 1927, ~~publishing~~ ~~notifying~~ for public criticism the draft Rules framed under the Regulation (~~Reg~~ III of 1920), to provide for the Inspection & Management of Steam Boilers & Prime Movers in Mysore, the following revised rules framed under the provisions of Section 74 of the said Regulation are hereby published for the information of persons likely to be affected thereby. Objections and ~~or~~ Suggestions, if any, on these Rules may be submitted ~~sent to~~ the Secy. to Govt. ~~Dev. Depts.~~ within three months from the date of ~~that~~ ~~their~~ publication in the official Gazette.

D.C. 78.24.23

Dated 6/4/29

Signed for C.C. [illegible]

By order

Endt. D/10332-3

D.O. 2/4

Dev. Secy. 21 4 29

To the Compiler, M.G. 6/4/29

Copy to the Dir. of I.&C.

Secy. Bd. of I&C

2/4/29

WD 2230—GPB—1,00,000—23-7-20

90

permits under the foregoing rules, and may also prescribe *tannas* or places at which the timber or other forest produce shall be brought for examination and where permits shall be checked or recovered or way permits issued.

Holder of permits must comply with the regulations of the Forest Department and the conditions entered in the permit;

18. Quarrying in Minor Forests shall be regulated by the Rules under the Land Revenue Code, care, however, being taken by the Deputy Commissioner to see that it is not ordinarily permitted in places where damage is likely to be caused to forest growth;

19. Without obtaining a special license in accordance with the Rules framed from time to time under the Game and Fish Preservation Regulation, no person shall be allowed to beat or drive for game or kill or capture game by setting nets, traps or snares;

20. Any breach or infringement of Rules 11, 12, 13, 14, 16, 17, 18 or 19 shall render the offender liable to imprisonment of either description as defined in the Indian Penal Code, which may extend to one month or to fine which may extend to Rs. 200 or both;

21. The Rules in respect of reserved and classified trees and seigniorage rates prescribed under the General Rules for the management of District Forests and other lands at the disposal of Government and in Government Notification No. R. 11096—Ft. 137-18-3, dated 1st March 1919 as amended from time to time and also the Malnad Raiyats' Privilege Rules, in respect of reserved and other groups of trees and seigniorage rates prescribed therein shall be applicable to Minor Forests.

R. RANGA RAO,
Offg. *Chief Secretary to Government.*

APPENDIX. (*Vide* RULE 4).

1. MYSORE DISTRICT.

(*a*) Heggaddevankote Taluk.
(*b*) Hunsur Taluk.

2. HASSAN DISTRICT.

(*a*) Manjarabad Taluk.
(*b*) Belur Taluk.
(*c*) Alur Sub-Taluk.

3. SHIMOGA DISTRICT.

(*a*) Shimoga Taluk.
(*b*) Shikarpur Taluk.
(*c*) Sorab „
(*d*) Sagar „
(*e*) Nagar Taluk.
(*f*) Tirthahalli Taluk.
(*g*) Kumsi Sub-Taluk.

4. KADUR DISTRICT.

(*a*) Chickmagalur Taluk.
(*b*) Tarikere Taluk.
(*c*) Koppa „
(*d*) Mudgere Taluk.
(*e*) Narasimharajapur Sub-Taluk.

No. D. 10331—I & C 78-28-23, dated 6th April 1929.

In supersession of Government Notification No. D. 2244—I and C 78-24-17, dated the 2nd September 1927, notifying for public criticism the draft Rules framed under Regulation III of 1920 to provide for the Inspection and Management of Steam Boilers and Prime Movers in Mysore, the following revised rules framed under the provisions of Section 24 of the said Regulation are hereby published for the information of persons likely to be affected thereby. Objections and suggestions if any on these Rules may be submitted to the Secretary to Government, Development Departments within three months from the date of the publiction in the Official Gazette.

By Order,
C. E. NORONHA,
For *Secretary to Government,*
Development Departments.
(*Absent from Head quarters*).

RULES.

PRELIMINARY.

1. These rules may be called the Mysore Boiler Rules, ~~1927.~~ ~~1930.~~ ~~1929~~ 1930.

They shall apply to the whole of Mysore and shall come into effect from ~~such date as may be notified by Government.~~ ~~1st Jan 1930.~~ ~~the date of publication in the Official Gazette~~ 1st March 1930.

2. In these rules unless there is anything repugnant in the subject or context:—

(*a*) The Regulation means the Regulation to provide for the Inspection and Management of Steam-boilers and Prime-movers in Mysore No. III of 1920.

(*b*) Section means a section of the said Regulation.

Qualifications, powers and duties of Inspectors, Section 24 (a).

~~3.~~ ~~The~~ An Inspector ~~appointed under the Regulation~~ shall be ~~a qualified Mechanical Engineer with practical experience of Boilers, Prime-movers and Machinery.~~

3/ The Inspectors of [illegible] [illegible] areas [illegible] shall be [illegible] appointed to each area in Mysore.

17.1.30

3 ~~4.~~ The Inspector shall work under the administrative control of the Director of Industries and Commerce ~~or any other authority that may be appointed by Government in this behalf.~~ The Inspector shall submit to him :—

(*a*) An annual report on the administration of the Regulation within the area in his jurisdiction.

(*b*) And such other Reports and Returns as may be called for.

5. The Inspector shall keep the following records :—

(*a*) A Register of Receipts of examination fees.

(*b*) A book containing forms of licenses in triplicates.

(*c*) A Register of Boilers in the following form :—

Name and address of owner	Place where boiler is situated	Register number and description of the boiler and its age	Nominal horse power	When, where and by whom the boiler was made	When and where the boiler was last repaired	Date of grant of license	Maximum pressure at which boiler may be worked	Time for which the license is to be in force	Remarks
1	2	3	4	5	6	7	8	9	10

(*d*) A memorandum of Inspection Book containing a detailed account of every examination of boilers made by him.

(*e*) A diary of work done by him. ~~from day to day.~~

(*f*) A Register of Licenses suspended or revoked under section 12.

(*g*) A Register showing the result of appeals presented under section 13.

(*h*) A Register of Accidents.

(*i*) A Register of Certificates of competency and of service.

6. ~~The main duties of the Inspector are:—~~

1. The main duties of the Inspector as laid down in the Regulation are the inspection and examination of Boilers and Prime Movers. Such inspections should be carried out in accordance with the instructions issued by Government ~~by notification in this behalf.~~ (vide Appendix C.

2. ~~In addition to the above,~~ He shall search for unregistered or unlicensed boilers during his tours of inspection and ascertain if licensed boilers are worked in accordance with the terms of their licenses.

3. At the time of inspection, the Inspector should advise the owner and the person in charge of the boilers and prime-movers on their management and upkeep with special reference to the amount of cleaning required in view of the quality of water used. The Director of Industries and Commerce shall issue a set of instructions which should be hung up in each boiler room.

7. The Inspector shall—

(*a*) enquire into all accidents to Steam Boilers and Prime-movers reported under section 11 and submit a report to the Director of Industries and Commerce,

(*b*) report to the Director of Industries and Commerce cases of unreported accidents discovered at the time of inspection,

(*c*) take action for prosecution under the Regulation and for withdrawing or revoking, or suspending a license under section 12 of the Regulation.

8. The Director of Industries and Commerce is authorised to revoke or suspend after due enquiry any license granted under the Regulation by the Inspector.

Fees payable on account of Examination, Section 24 (b).

9. The Examination fees shall be paid in accordance with the following scale :—

		Rs.
1.	For the examination of each boiler not exceeding 10 horse power nominal ...	12
2.	For the examination of each boiler exceeding 10 N.H.P. but not 20 N.H.P.	16
3.	For the examination of each boiler exceeding 20 N.H.P. but not 30 N.H.P.	24
4.	For the examination of each boiler exceeding 30 N.H.P. but not 50 N.H.P.	32
5.	For the examination of each boiler exceeding 50 N.H.P. horse power nominal ...	40

Examination for Certificates of Competency, Section 24 (c) and (d).

10. The Examiners for the conduct of examinations for the grant of Certificates of Competency and of service shall consist of the Director of Industries and Commerce in Mysore, the Professor of Mechanical Engineering, College of Engineering, Bangalore and one other person that may be appointed by Government from time to time.

11. The Examinations for Certificates of Competency shall be held at Bangalore twice a year and at intervals of not more than six months.

12. A candidate for examination for a Certificate of Competency shall pay a fee of Rs. 5.

13. A candidate who appears for examination and fails will, in no case, be entitled to a return of any portion of the fee paid by him. But the fee paid by a candidate who is not admitted to the examination will be returned to him, in full, on application. ~~In the event of a~~ candidate being unavoidably absent from any examination for which he has paid a fee, the Director of Industries and Commerce may in his discretion, allow him to appear without any fresh payment, at any subsequent examination held within one year of the examination for which the candidate had paid the fee.

14. Any candidate who appears for the first time and fails to pass the examination may appear at the next subsequent examination without a further fee. For every further examination at which he may be permitted to appear he shall be charged half the fee prescribed in rule 12.

15. Every applicant for examination shall make an application in the form shown in Appendix A. He shall duly fill in all the parts of the said form which are to be filled in by a candidate and shall sign the same in the presence of his employer or a Gazetted Officer in the service of Government. The applicant shall then send his application to the Director of Industries and Commerce not later than 30 days before the date fixed for examination. The application should be accompanied by—

(1) Testimonials of good character, sobriety and conduct.

(2) A challan or receipt for having remitted to the Government Treasury the prescribed fee.

(3) A letter stating the language in which he desires to be examined.

(4) The previous certificates, if any, issued to the applicant under these rules.

(5) Any other papers required by these rules on the printed form of application.

16. No applicant will be admitted to the examination whose testimonials as to sobriety of character and conduct are not in the opinion of the Director of Industries and Commerce trustworthy and satisfactory.

17. If there be sufficient reason to doubt the truth of any facts stated in any application or testimonial the application or testimonial may be rejected by the Director of Industries and Commerce. The original testimonials shall after the close of each examination be returned to the candidate who presented them if he applies for the same.

18. No candidate for a Certificate of Competency will be admitted to examination unless he produces satisfactory certificates stating that he completed a three years' course in the workshops of a recognised college or institute and during the period has received instructions in the management of engines and boilers.

19. To be entitled to a Certificate of Campetency a candidate must satisfy the examiners that

(*a*) he fully understands the working and management of boilers, and all appurtenances usually attached thereto,

(*b*) he is able to explain the working of engines and their parts,

(*c*) he knows what ought to be done in case of the break-down of any portion of the machinery.

20. Every examination shall be of such a nature as to test the practical knowledge of the candidate and to ascertain his competency to manage engines and boilers.

21. The examination shall be conducted in writing and by *viva voce*, on such subjects and in such manner as the examiners may determine.

Examination for Certificates of Service.

22. An applicant for a certificate of service will be charged a fee of Rs. 3 in respect of his first application. "In case he fails to pass in the examination, he may be permitted to appear at the next subsequent examination without a fee; but if he should fail again, then for every subsequent application in respect of the same examination for which he is allowed to appear the provisions of rule 14 shall apply."

23. Every applicant for examination for a certificate of service shall make an application in the form shown in Appendix A. The application should be made in the same manner as provided in rule ~~14~~ 15. The application shall be accompanied by (a) Testimonials of good character, sobriety and conduct, (b) a challan or receipt for having remitted to the Government Treasury the prescribed fee, (c) a certificate to show that the applicant has served for a period of not less than three years in charge of a boiler or of a prime-mover or has worked as an apprentice under a person holding a Certificate of Competency or Service continuously for a period of three years and (d) any other papers required by these rules or the printed form of application.

24. In order to ascertain that a candidate for a certificate of service is possessed of competent skill for the charge and management of a boiler or prime-mover, the examiners shall subject him to such practical examination as they in each case think fit.

25. Certificates of Competency and of Service shall be in the form shown in the Appendix A. I or to the like effect and will be of the following classes:—

Holders of certificates of the First Class will be deemed to be capable of being in charge of boilers attached to prime-movers of any horse power.

Holders of certificates of the Second Class will be deemed to be capable of being in charge of boilers attached to prime-movers exceeding 10 N. H. P. and not exceeding 100 N. H. P.

Holders of certificates of the Third Class will be deemed to be capable of having charge of boilers attached to prime-movers not exceeding 10 N. H. P.

Cancellation or suspension of certificates after inquiry.

26. (1) If the Director of Industries and Commerce has reason to believe that an enquiry should be made into any allegation of incompetence, drunkenness, misconduct or negligence on the part of any person holding a Certificate of Competency or Service, he shall make an enquiry. (2) The holder of the certificate shall on demand by the Director of Industries and Commerce forthwith place in his hands his certificate. (3) The enquiry shall be held in the presence of the person whose conduct forms the subject of the enquiry and he shall be given an opportunity of making any statement he may wish to make and of producing evidence in his defence.

The results of the enquiry should be reported to Government with such recommendations as he thinks fit.

Government may order the cancellation altogether of the certificate of the person whose conduct formed the subject of the enquiry or cancel the certificate for such period as they may determine.

General.

27. (1) On granting a license under Section 7, the Inspector shall register the boiler in the form as per Appendix "B".

(2) The license to be issued by the District Magistrate under sub-section 5 of section 13 of the Regulation shall be in the form prescribed in Schedule A appended to the Regulation or in the form to the like effect. He shall forward a copy of the license issued by him to the Inspector.

28. (i) The District Magistrate shall, in hearing every appeal, be assisted by two assessors who shall be fully qualified Mechanical Engineers and members of a panel of assessors appointed by Government by notification in this behalf. District Magistrate

(ii) The ~~Appellate Court~~ shall have full powers to secure the attendance of witnesses and to make local enquiries.

29. Save as otherwise expressly provided in the Regulation, the provisions of the Regulation and the rules shall be applicable to boilers and prime-movers belonging to Government.

APPENDIX A.

APPLICATION FOR A CERTIFICATE OF COMPETENCY OR SERVICE.

(A) Name, etc., of applicant
    Name in full
    Permanent Address
    Date of birth
    Place of birth District.
(B) Particulars of previous certificates
    Number and date of certificate
    Competency or service
    Was there any suspension, or cancellation of certificate
    If so,
        When,
        By whom,
        Why the certificate was cancelled or suspended
(C) Certificate now required
    Competency or service
    Class
    Address to which it should be sent
(D) Did the applicant appear for the examination for the certificate now required at any time before.
    Where and when did he appear for the examination.
    Subjects in which he failed
(E) Declaration to be made by the applicant

I do hereby declare that the particulars contained in division (a) (b), (c), (d) and (f) of this form are correct and true to the best of my knowledge and belief; and that the papers enumerated in division (f) and sent with this form are true and genuine documents given and signed by persons whose names appear on them. I further declare that the statement (f) contains a true and correct account of the whole of my service without exception. I make this declaration conscientiously believing the same to be true.

Dated at this day of 192 .

Signed in the presence of

Signature of applicant.

Employer or Gazetted Officer. Present Address.

NOTE.—Any person who makes, procures to be made or assists in making any false representation for the purpose of obtaining for himself or any person, a certificate of either competency or service will be prosecuted.

(F) Testimonials and statements of service

Number
Where employed
H. P. of Engine
Description of the Factory
Service of applicant

(a) in what capacity
(b) date of commencement of service
(c) date of termination of service

Total time of service	Years	Months	Days
Time for which certificates are now produced			
Time for which certificates are not now produced			

APPENDIX A 1.

CERTIFICATE OF COMPETENCY OR SERVICE.

of class granted under the Mysore Boiler Regulation.
No..................... Date.
.........................aged about years, residing at......
............having satisfied the Board of Examiners appointed under the Mysore Boiler Regulation of his competency or practical skill to have charge of a boiler attached to prime movers of H. P. is granted under the rules framed under the said Regulation, this Certificate of Competency or Service of class,

Dated at of

1.
2.
3.
4.

Board of Examiners.

On the reverse side of the certificate
Signature of the owner
Date and place of birth
Personal description and marks
Height without shoes
Thumb impression

N.B.—Duplicate of this certificate has been recorded in the Office of the Inspector of Boilers on day of

APPENDIX B.

BOILER INSPECTION DEPARTMENT.

Register of Boilers.

Registry No.	Type of Boiler	Boiler rating	Name of manufacturer	Year and place of construction	Date of Registration	Name of Owner	Place where in use	Remarks (Transfers etc)

Appendix C.

Technical Instructions to the Inspectors.

~~Appendix D~~

~~Instructions for the Boiler room attendants.~~

No. D. 10422—Geol. 16-28-5, dated 11th April 1929.

The following draft amendments which the Government propose to make, to the rules framed under Section 4 of the Mysore Explosives Regulation II of 1888 and issued with Government Notification No. G. 9745—Geol. 69-15-17, dated the 18th January 1918, are hereby published as required by Section 15 of the Regulation, for the information of the persons likely to be affected thereby, and notice is hereby given that the said draft amendments will be considered by Government on or after the 1st May 1929 and that any suggestions or objections which may be received from any person or persons, with respect to them, before the date aforesaid will also be considered.

Amendments.

CLAUSE (i) OF RULE 3, CHAPTER I, PAGE 1.

Add "or coloured matches known as Bengal lights" after the words "paper caps for toy pistols";

and

"or to the possession, sale, transport or importation of snaps when contained in fully manufactured Christmas or bon-bon crackers" at the end of the clause.

FORM 'F' ARTICLE 11 OF SCHEDULE I—PAGE 62.

Insert the following as Condition 2A after Condition 2:—

"The licensee shall exhibit his stock and his books and records to any Magistrate or to any Police Officer duly empowered in this behalf, whenever such Magistrate or officer may call upon him so to do."

(ii) In condition 3 after the word "building" insert the words "approved by such officer as the Government may prescribe."

FORM 'J' ARTICLES 12 & 13 OF SCHEDULE I PAGE 70.

Add the following proviso at the end of Condition 8 (b). "provided also that where two or more lightning conductors are attached to one and the same magazine,

Dte 78-24-24

2 of 5

D 3572 D 27/9/

91

Notification.

Under the powers conferred by Section I(2) of Regulation III of 1920, the Government of H.H. the Maharaja of Mysore are pleased to direct that the Regulation (Steam Boilers and Prime Movers Regulation III of 1920) shall come into force from the date of publication of this Notification in the -- Mysore Gazette and shall extend to the whole of Mysore State.

Dated 27/9/

Signed [illegible]

By Order,

Secretary to Govt.
Dev. Deptts.

To

The Compiler, Mysore Gazette.

D 2573 D 27/9/

copy to the Dir. Dte

GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE

General and Revenue Secretariat,

No. D. 3572

Dated, Bangalore, [illegible] 192[illegible]

NOTIFICATION.

Under the powers conferred by Section I (2) of Regulation III of 1920, the Government of His Highness the Maharaja of Mysore are pleased to direct that the Regulation (Steam Boilers and Prime Movers Regulation III of 1920) shall come into force from date of publication of this Notification in the Mysore Gazette and shall extend to the whole of Mysore State.

By Order,

For Secretary to Government,
Development Departments.

To

The Compiler, Mysore Gazette for publication.

B
[illegible] 26-9

I&C 78-24-25

2975 93

No D3574-21

To

The District Magistrates,

Sir,

I am directed to state that Rule 28(1) of the draft Rules framed under the Steam Boilers & Prime Movers Regulation III of 1920 and published at page 82 of Part III of the Mysore Gazette dated the 18th April 1929, provides for the District Magistrates hearing appeals under the Regulation assisted by two assessors who shall be fully-qualified Mechanical Engineers and members of a panel of assessors appointed by Govt. by notification in that behalf, and to enquire if assessors possessing the required qualifications are available in your District.

The favour of a very early reply is requested.

Desp 27/9/29

Copied to Mr. E. V. Ganapathy Iyer

I have etc.,

Development Secy.

5/9

.L.Dis.393/29-30.

Office of the District Magistrate,
Kadur District.
Chikmagalur, Dated 10th December 1929.

94

From

12 12 29 H. V. Ramasvami, Esq., M.A., B.L.,
District Magistrate,
Kadur District.

Genl. & Rev. Secretariat
5702
12 DEC. 1929
DEVELOPMENT BRANCH

To

N. Rama Rao, Esq., B.A., B.L.,
Secretary to the Government of
His Highness the Maharaja of Mysore,
Development Department, BANGALORE.

Sir,

Appeals under the " Steam Boilers and Prime Movers Regulation III of 1920.

With reference to your letter No.D.3514-21/I & C 78-24-25 dated the 27th September 1929 enquiring whether assessors possessing the qualifications prescribed in Rule 23 (i) of the draft rules framed under the Steam Boilers and Prime Movers Regulation III of 1920 for hearing appeals thereunder, are available in this District, I have the honor to state that there are at present, only two qualified Mechanical Engineers in this District, one Mr. L.A.H. Winckler, Executive Engineer, and the other Mr. M.J. Sampathkumara Char, Assistant Engineer, Kadur. No non-official assessors with the necessary qualifications are available in this District.

File separately Sub?

I have the honor to be,
Sir,
Your most obedient servant,

Tr. asst Commissioner
for District Magistrate,
Kadur District.
(Absent from station)

95

OFFICE OF THE DISTRICT MAGISTRATE.
SHIMOGA DISTRICT.

NO.L.Dis.J.1.651/29-30.

DATED, SHIMOGA 18th January 1930.

From

M. N. BalaRaj Urs, Esq., B.A.,
District Magistrate,
Shimoga District.

6119
SECRETARIAT.
20 JAN 1930

To

N. Rama Rao, Esq., B.A., B.L.,
Secretary to Government,
Development Departments,
Bangalore.

Sir,

With reference to your letter No: D.3514-21/H.C.78-24-25 dated the 27th September 1929 enquiring if duly qualified assessors are available to assist the District Magistrate in hearing appeals under the Steam Boilers and Prima movers Regulation of 1920, I have the honour to state that it is ascertained that the Superintendent of Industries and Commerce is the only gentleman available for the purpose.

I have the honour to be,
Sir,
Your most obedient servant,

District Magistrate,
Shimoga District.

Office of the District Magistrate,
Hassan District,
Dated Hassan, the 8th October 1929.

No. L Dig2-123-29

11 10 29

Ex 7/10/10

From

S. Abdul Wajid, Esq., B.A.,
District Magistrate, Hassan.

GENL. & REV. SECRETARIAT
3276 '29
12 OCT.
DEVELOPMENT BRANCH

To

N. Rama Rao, Esq., B.A., B.L.,
Secretary to Government,
Development Departments,
Bangalore.

Dk 78-24-26.

Sir,

Assessors who shall be fully qualified Mechanical Engineers and Members of a panel of assessors to assist District Magistrates.--

------

Adverting to your letter No. D 3514-21/~~H.C.~~ Dk. 78-24-25 dated the 27th ultimo enquiring if assessors possessing the required qualifications are available in the District, I have the honor to reply in the negative.

I have the honor to be,
Sir,
Your most obedient servant,
Abdul Wajid.
District Magistrate,
Hassan District.

as.

97

In all future correspondence
please quote this
No. J.I.M.C. 466/29-30
Encls.

OFFICE OF THE DISTRICT MAGISTRATE,
KOLAR DISTRICT.

Dated, Kolar, the 24th October 1929

FROM

A. V. RAMANATHAN, ESQ., B.A.,
District Magistrate,
Kolar District.

KB
28 10 29

GEN. & REV. SECRETARIAT,
DEVELOPMENT BRANCH.
3651
8 OCT.

TO

N.Rama Rao, Esq., B.A.,B.L.,
SECRETARY TO GOVERNMENT OF MYSORE,
Development *Department,*
Bangalore.

Hc 78-24-27

SIR,

With reference to your letter No.D.3514-21/H.C.78-24-25 dated 27-9-29 calling for information about the qualified - Mechanical Engineers available in this District for nomination to the panel of assessors who are to sit with the District Magistrate in hearing appeals under Rule 28(1) of the draft rules framed under the steam Boilers and Prime Movers Regulation III of 1920,

I have the honour to state that Mr.H.V.Visvesvarya, Superintendent, Bethamangala water works, is a qualified Mechanical Engineer and I am awaiting reply of the Executive Member of Messrs. John Taylor and Sons Committee, Oorgaum, for other names.

I have the honour to be,
Sir,
Your most obedient servant,

Treasury Assistant Commissioner,
For District Magistrate,
Kolar District.
(Absent from station).

A.R.24/10.

98

In all future communications
please quote—
No. J.1.L.1862/29-30
Enc.

OFFICE OF THE DEPUTY COMMISSIONER,
BANGALORE DISTRICT.

Dated, Bangalore, the 26th ~~October~~ 1929.

4/11 3824

FROM 4/11/29 4/11

A. K. SYED TAJ PEERAN, ESQ., B.A.,
~~Deputy Commissioner,~~ District Magistrate
Bangalore District.

TO

N. Rama Rao, Esq., B.A., B.L.,
Secretary to the Govt. of Mysore,
Development Departments, Bangalore.

SIR,

2 Hc.78-24-28.

Subject:—

With reference to your No. D.3514-21/H.C.78-24-25 dated 27th September 1929, enquiring whether assessors possessing the required qualifications, as mentioned in the reference are available to assist the District Magistrate in hearing appeals under the Steam Boilers and Prime Movers Regulation III of 1920, I have the honor to state that there may be no difficulty of getting such men in Bangalore.

I have the honor to be,
Sir,
Your most obedient servant,
A K Syed Taj Peeran
District Magistrate,
Bangalore District.

L.S.R.

4/11

99

No. DB Ds 265
29-30

Enclosures.

OFFICE OF THE DISTRICT MAGISTRATE,
TUMKUR DISTRICT.

Dated, Tumkur, the... 5th November 1929.

FROM

Wh 7/11/29

G. B. HEBLIKAR, ESQ., B.A., LL.B.,
District Magistrate, Tumkur District,
Tumkur.

GEN. & REV. SECRETARIAT,
3942
7 NOV. 1929
DEVELOPMENT BRANCH.

TO

N. Rama Rao, Esquire, B.A., B.L.,
Secretary to the Govt. of H. H. the
Maharaja of Mysore,
Development *Department,*
Bangalore.

SIR,

Dk 78-24-29

With reference to your No.D. 3514-21 I.&.C. 78-25-25 dated 27-9-1929, enquiring if assessors possessing the required qualifications to assist the District Magistrate for hearing appeals under the Steam Boilers and Prime Movers Regulation, are available in the District, I have the honor to state that there are no qualified Mechanical Engineers with the necessary practical knowledge and experience in the District.

I have the honor to be,
Sir,
Your most obedient servant,
G B Heblikar
District Magistrate,
Tumkur District.

AD.5/11.

2155
P

100

Tel. Address:—Dismag,
CHITALDRUG.

In reply, please refer to
No. J. C. 149/29-30
Enclosures.

OFFICE OF THE DISTRICT MAGISTRATE,
CHITALDRUG DISTRICT.

Dated, Chitaldrug, 7th November 1929

GEN. & REV. SECRETARIAT
4082
12 NOV. 1929
DEVELOPMENT BRANCH

FROM

C. S. KUPPUSWAMIENGAR, Esq.,
District Magistrate,
Chitaldrug District.

To

P. Mahadevayya, Esq., B.A.,B.L.,
Secretary to Government, Law Department,
Bangalore.

Hc 78-24-30

Sir,

With reference to your letter No. 3514-21/Hc. 78Cts 25 dated 27th September 1929 enquiring if gentlemen possessing required qualifications for the formation of a panel of assessors to assist the District Magistrate in hearing appeals under the Steam Boilers and Prime Movers' Regulation III of 1920, are available in this District, I have the honour to state that Mr. K.S. Krishnaswami, Municipal Engineer, Davangere, is reported to be a mechanical Engineer and that Mr. M. Venkata Krishna Rao, Assistant Engineer, No.3 Sub Division, Hiriyur, is reported to have received training in Mechanical Engineering also. Excepting these two persons, there is none in the District that could be recommended to form the panel of assessors.

I have the honour to be,
Sir,
Your most obedient servant,

District Magistrate.

8/11

101

In all future correspondence please quote this
No. J.1.N.C. 466/29-30.
Encls.

OFFICE OF THE DISTRICT MAGISTRATE,
KOLAR DISTRICT.

Dated, Kolar, the 18th February 1930.

& REV. SECRETARIAT
7/39
19 FEB. 1930
DEVELOPMENT BRANCH

19-2-30

FROM

A. V. RAMANATHAN, ESQ., B.A.,
District Magistrate,
Kolar District.

TO

N. Rama Rao, Esq., B.A., B.L.,
SECRETARY TO GOVERNMENT OF MYSORE,
Development *Department,*
Bangalore.

SIR,

In continuation of my letter No. J.1.N.C.466/29-30 dated 23th October 1929, furnishing information regarding qualified Mechanical Engineers available in the district, I have the honor to state that the Executive Member of Messrs: John Taylor & Sons' Committee, Oorgaum, informs me that there are no qualified -- mechanical Engineers in the employ of the Kolar Gold Field Companies for nomination to the panel of assessors to sit in hearing appeals under Rule 28 of the Steam Boilers & Prime Movers' Regulation III of 1920.

I have the honor to be,
Sir,
Your most obedient servant,

District Magistrate,
Kolar District.